

Service Manual



Service Manual

KG920



Model : KG920



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1. INTRODUCTION

1.1 Purpose

This manual provides the information necessary to repair, calibration, description and download the features of this model.

1.2 Regulatory Information

A. Security

Toll fraud, the unauthorized use of telecommunications system by an unauthorized part (for example, persons other than your company's employees, agents, subcontractors, or person working on your company's behalf) can result in substantial additional charges for your telecommunications services. System users are responsible for the security of own system. There are may be risks of toll fraud associated with your telecommunications system. System users are responsible for programming and configuring the equipment to prevent unauthorized use. The manufacturer does not warrant that this product is immune from the above case but will prevent unauthorized use of common-carrier telecommunication service of facilities accessed through or connected to it. The manufacturer will not be responsible for any charges that result from such unauthorized use.

B. Incidence of Harm

If a telephone company determines that the equipment provided to customer is faulty and possibly causing harm or interruption in service to the telephone network, it should disconnect telephone service until repair can be done. A telephone company may temporarily disconnect service as long as repair is not done.

C. Changes in Service

A local telephone company may make changes in its communications facilities or procedure. If these changes could reasonably be expected to affect the use of the this phone or compatibility with the network, the telephone company is required to give advanced written notice to the user, allowing the user to take appropriate steps to maintain telephone service.

D. Maintenance Limitations

Maintenance limitations on this model must be performed only by the manufacturer or its authorized agent. The user may not make any changes and/or repairs except as specifically noted in this manual. Therefore, note that unauthorized alternations or repair may affect the regulatory status of the any remaining warranty.

1. INTRODUCTION

E. Notice of Radiated Emissions

This model complies with rules regarding radiation and radio frequency emission as defined by local regulatory agencies. In accordance with these agencies, you may be required to provide information such as the following to the end user.

F. Pictures

The pictures in this manual are for illustrative purposes only; your actual hardware may look slightly different.

G. Interference and Attenuation

Phone may interfere with sensitive laboratory equipment, medical equipment, etc. Interference from unsuppressed engines or electric motors may cause problems.

H. Electrostatic Sensitive Devices

ATTENTION

Boards, which contain Electrostatic Sensitive Device (ESD), are indicated  by the sign. Following information is ESD handling:

- Service personnel should ground themselves by using a wrist strap when exchange system boards.
- When repairs are made to a system board, they should spread the floor with anti-static mat which is also grounded.
- Use a suitable, grounded soldering iron.
- Keep sensitive parts in these protective packages until these are used.
- When returning system boards or parts like EEPROM to the factory, use the protective package as described.

1.3 Abbreviations

For the purposes of this manual, following abbreviations apply:

APC	Automatic Power Control
BB	Baseband
BER	Bit Error Ratio
CC-CV	Constant Current - Constant Voltage
DAC	Digital to Analog Converter
DCS	Digital Communication System
dBm	dB relative to 1 milli watt
DSP	Digital Signal Processing
EEPROM	Electrical Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
FPCB	Flexible Printed Circuit Board
GMSK	Gaussian Minimum Shift Keying
GPIO	General Purpose Interface Bus
GSM	Global System for Mobile Communications
IPUI	International Portable User Identity
IF	Intermediate Frequency
LCD	Liquid Crystal Display
LDO	Low Drop Output
LED	Light Emitting Diode
OPLL	Offset Phase Locked Loop

1. INTRODUCTION

PAM	Power Amplifier Module
PCB	Printed Circuit Board
PGA	Programmable Gain Amplifier
PLL	Phase Locked Loop
PSTN	Public Switched Telephone Network
RF	Radio Frequency
RLR	Receiving Loudness Rating
RMS	Root Mean Square
RTC	Real Time Clock
SAW	Surface Acoustic Wave
SIM	Subscriber Identity Module
SLR	Sending Loudness Rating
SRAM	Static Random Access Memory
PSRAM	Pseudo SRAM
STMR	Side Tone Masking Rating
TA	Travel Adapter
TDD	Time Division Duplex
TDMA	Time Division Multiple Access
UART	Universal Asynchronous Receiver/Transmitter
VCO	Voltage Controlled Oscillator
VCTCXO	Voltage Control Temperature Compensated Crystal Oscillator
WAP	Wireless Application Protocol

2. PERFORMANCE

2.1 H/W Features

1) System Specification

Item	Target Specification
Form Factor	Twisted Bar
Size	108 x 50 x 18mm
Weight	150g
Battery	3.7V, 820 mAh LI-Ion
Talk Time	Up to 3h : GSM Tx Level 7
Standby Time	Up to 180 hrs : Paging Period 9, RSSI 85dBm
Antenna	Internal Antenna
LCD	Main: 262K Colour QVGA(240x320) TFT
Camera	Built-in CCD 5M Pixels Camera
Back Light(Key Pad)	LED
Back Light colour(Key)	Blue(with orange colour filter)
Vibrator	Yes
Buzzer	Yes
C-MIC	Yes
Receiver	Yes
Earphone Jack	Yes / Jack
SIM Socket	Yes (SIM Block Type) → 3V only
Volume Key	Yes
Voice Key	N/A
I/O Connect	24 Pin
Basic Accessory	Travel Adaptor / Battery / Ear Phone + Mic/Data Cable/Mini-SD Card
Option	N/A

2. PERFORMANCE

2) Feature

Function	Target Specification
Display	RSSI (5 Level)
	Battery Charging (5 Level)
	RTC
	Multi-Language (English, French, German, Spanish, Dutch, etc.)
	Quick Access Mode(HOT KEY)
	PLMN/Service Indicator
Keypad	Number of Keys : 30 Key (including Soft key, side key, Hot key)
	Soft Function Keys : 3
	International Access (+)(long 0)
	HotKey : Zoom+/-, MP3, Schedule
Normal Features	Last Dialed Number : 20
	Last Received Number : 10
	Last Missed Number : 10
	Scratch Pad Memory(Save a phone number in call) : 1
Call Management	Call Waiting
	Call Swap
	Call Retrieve
	Any Key Answer
	Automatic Redial
	Calling Line Identification
	Full Call divert
	Speed Dialling
	Last Number Redial
	Multi-party Call (Conference Call)
Voice Recording	Voice Recording (20 Sec/20 message)
Network	Automatic Network Selection
	Manual Network Selection
	Network Service Status

2. PERFORMANCE

Cell Broadcast	Read Cell Broadcast
	Cell Broadcast Categories
	Cell Broadcast Message Language
Phone Book	Number Store and Recall
	Alpha Store and Recall
	Search the Phone Book in call
	Scroll by alpha
	Last Number Dialed (20)
	Last Number Missed (10)
	Last Number Received (10)
	Copy & Move
	Fixed Dial Number
	Service Dial Number
	Email Entry
	Entry : 1000 names
Call Cost	Last Call Timer
	Last Call Charge Units
	Total Call Timer
	Total Charge Units
	Visible, Audible Call Time/Cost Indication
Audio	Key tone setting
	Key / Ring Tone Volume (5 Level)
	Ring Tone Pattern 20(fixed) + My Folder Ring tone 24(Default)
	Ring Type: Silent / Vibrator & Ring / Ring only / Vibrator only/Ring after Vibrator
	Earpiece Volume (5 Level)
	Mute
DTMF	DTMF Signalling
	DTMF Enable & Disable

2. PERFORMANCE

Supplementary Services	Call Forwarding All Incoming Calls
	Call Forwarding On Busy
	Call Forwarding No Reply
	Call forwarding Not-reachable
	Call Barring All Outgoing Calls
	Call Barring All Outgoing International Calls
	Call Barring All incoming Calls
	Call Barring All incoming Calls when roaming
	Conference Call (up to 5 calls)
SIM	Plug-In Type : 3V Only
	Service Provider Lock & Network Lock
	SIM Toolkit (Class 1, 2, 3)
	Prepaid SIM Operation
Short Message	Read Message
	Write and Edit Message
	Send and Receive Message
	Reply to Message
	Forward Message
	Extract Number from Message
	Message Status
	Message Unread Indicator
	Settable Message Center Number,
	Visible and Audible Message
	Voice Mail
	Settable Voice Mail Center Number
	Message Protocol
	Message Overflow Indicator
	Message Center Number
Multi-Band	Support of Multi-band & Mode
Miscellaneous Function	Development & Test Facility
	Field Test Facility
	Display Software Version
	IMEI

2. PERFORMANCE

Text Input	T9 (Predictive word input)
Organizer	Calendar & Memo
World Time	Setting Local time
	Number of Selectable Cities: 76
Unit converter	Currency/Surface/Length/Weight/Temperature/Volume/Velocitv/Shoes /Clothes
Calculator	Addition, Subtraction, Multiplication, Division, trigonometrical function , logarithmic function
PC Sync	Scheduler , Memo Sync
	Phone Book Sync
	Internet Kit supporting PC OS (2000,ME,XP)
	Contents D/Load (Wallpaper/Ringtone)
Data	Circuit (up to 9.6kbps)
GPRS	GPRS Multi slot Class 10
Game	Java Download Games
Menu	Quick Access Mode
Handset	Read Software Version
	Battery Charging Mode
	Restore Factory Setting
Security	SIM Lock
	Emergency Call
Real Time Clock	12/24 hour
	Calendar with Automatic Leap Year Adjustment
	Time Zone Adjustment
	Alarm Manager
	On Alarm Event
	Display Message on Alarm Event
Others	Profiles

2. PERFORMANCE

MMS (3GPP R5)	Read and Save MMS Message
	Preview MMS Message
	Send and Receive MMS Message
	Previous, Next slide
	Set timer
	Remove media
	Delete slide
	Attach MMS media (Text, Audio, Picture) Audio: SP-MIDI, I-Melody (AMR: supported), MIDI, SMAF, WAV Picture: GIF87, GIF89a, PNG, JPEG, WBMP
WAP	version 2.0 @ TELECA
JAVA	MIDP 2.0 @ Esmertec
E-mail (CIS/Europe)	SMTP, POP3
Bluetooth	Generic Access Profile, Service Discovery application Profiles(profile v1.1), Generic Objective Exchange Profile, Serial Port Profile, Headset Profile (profile v1.1), Audio Gateway, Dial-Up Networking profile (profile v1.1), File Transfer Profile (Server, Client) (profile v1.1), Object Push Profile (Server, Client) (profile v1.1, Vcard2.1 only), Hands-Free profile (profile v1.0), Basic Printing Profile (profile v1.0)

2. PERFORMANCE

3) RF Transmitter

NO	Item			EGSM	DCS1800		
1	Conducted Spurious Emission	MS allocated Channel	100kHz ~ 1GHz	-36dBm	-36dBm		
			1GHz ~ 12.75GHz	-30dBm			
			1GHz ~ 1710MHz		-30dBm		
			1710MHz ~ 1785MHz		-36dBm		
			1785MHz ~ 12.75GHz		-30dBm		
		Idle Mode	100kHz ~ 880MHz	-57dBm	-57dBm		
			880MHz ~ 915MHz	-59dBm	-59dBm		
			915MHz ~ 1GHz	-57dBm	-57dBm		
			1GHz ~ 1.710GHz	-47dBm	-47dBm		
			1.710GHz ~ 1.785GHz	-53dBm	-53dBm		
			1.785G ~ 12.75GHz	-47dBm	-47dBm		
			1GHz ~ 1.850GHz 1.850GHz ~ 1.910GHz 1.910GHz ~ 12.75GHz				
			Radiated Spurious Emission	MS allocated Channel	30M ~ 1GHz	-36dBm	-36dBm
					1G ~ 4GHz	-30dBm	
	1G ~ 1710MHz				-30dBm		
	1710M ~ 1785MHz				-36dBm		
	1785M ~ 4GHz				-30dBm		
	Idle Mode	30M ~ 880MHz		-57dBm			
		880M ~ 915MHz		-59dBm			
		915M ~ 1GHz		-57dBm			
		1G ~ 1710MHz		-47dBm			
		1710M ~ 1785MHz		-53dBm			
		1785M ~ 4GHz	-47dBm				
		1G ~ 1850MHz					
		1850M ~ 1910MHz					
		1910M ~ 4GHz					
2	Frequency Error		< 0.1ppm				
3	Phase Error		Peak < 20 degrees RMS < 5 degrees				

2. PERFORMANCE

NO	Item		EGSM			DCS1800		
4	Frequency Error Under		3dB below reference sensitivity			3dB below reference sensitivity		
	Multipath and Interference		RA250: ±300Hz			RA130: ±400Hz		
	Condition		HT100: ±180Hz			HT100: ±350Hz		
			TU50: ±160Hz			TU50: ±260Hz		
			TU3: ±230Hz			TU1.5: ±320Hz		
5	Output RF Spectrum	Due to modulation	0 ~ 100kHz	+0.5dB	0 ~ 100kHz	+0.5dB		
			200kHz	-30dB	200kHz	-30dB		
			250kHz	-33dB	250kHz	-33dB		
			400kHz	-60dB	400kHz	-60dB		
			600 ~ 1800kHz	-60dB	600 ~ 1800kHz	-60dB		
			1800 ~ 3000kHz	-63dB	1800 ~ 6000kHz	-65dB		
			3000 ~ 6000kHz	-65dB	≥ 6000kHz	-73dB		
			≥ 6000kHz	-71dB				
	Due to Switching transient	400kHz	-19dB	400kHz	-22dB			
		600kHz	-21dB	600kHz	-24dB			
		1200kHz	-21dB	1200kHz	-24dB			
		1800kHz	-24dB	1800kHz	-27dB			
6	Intermodulation attenuation					Frequency offset	800kHz	
						Intermodulation product should be Less than 55dB below the level of Wanted signal		
7	Transmitter Output Power		Power control Level	Power (dBm)	Tolerance (dB)	Power control Level	Power (dBm)	Tolerance (dB)
			5	33	+3	0	30	+3
			6	31	+3	1	28	+3
			7	29	+3	2	26	+3
			8	27	+3	3	24	+3
			9	25	+3	4	22	+3
			10	23	+3	5	20	+3
			11	21	+3	6	18	+3
			12	19	+3	7	16	+3
			13	17	+3	8	14	+3
			14	15	+3	9	12	+4
			15	13	+3	10	10	+4
			16	11	+5	11	8	+4
			17	9	+5	12	6	+4
			18	7	+5	13	4	+4
			19	5	+5	14	2	+5
						15	0	+5

2. PERFORMANCE

2) Receiver

NO	Item		GSM900	DCS1800
1	Sensitivity (TCH/FS Class II)		-105dBm	-105dBm
2	Co-Channel Rejection (TCH/FS Class II, RBER, TUhigh/FH)		C/Ic= 7dB	C/Ic= 7dB
3	Adjacent Channel Rejection	200kHz	C/Ia1= -12dB	C/Ia1= -12dB
		400kHz	C/Ia2= -44dB	C/Ia2= -44dB
4	Intermodulation Rejection		Wanted Signal: -98dBm	Wanted Signal: -96dBm
			1'st interferer: -44dBm	1'st interferer: -44dBm
			2'nd interferer: -45dBm	2'nd interferer: -44dBm
5	Blocking Response (TCH/FS Class II, RBER)		Wanted Signal: -101dBm Unwanted Signal: Depend on freq.	Wanted Signal: -101dBm Unwanted Signal: Depend on freq.

2. PERFORMANCE

2.2 Technical Specification

Item	Description	Specification					
1	Frequency Band	EGSM • TX: $890 + (n-1024) \times 0.2 \text{ MHz}$ • RX: $935 + (n-1024) \times 0.2 \text{ MHz}$ ($n=975\sim1024$) DCS • TX: $1710 + (n-512) \times 0.2 \text{ MHz}$ • RX: $1805 + (n-512) \times 0.2 \text{ MHz}$ ($n=512\sim885$) PCS • TX: $1810 + (n-512) \times 0.2 \text{ MHz}$ • RX: $1905 + (n-512) \times 0.2 \text{ MHz}$ ($n=512\sim885$)					
2	Phase Error	RMS < 5 degrees Peak < 20 degrees					
3	Frequency Error	< 0.1 ppm					
4	Power Level	EGSM					
		Level	Power	Toler.	Level	Power	Toler.
		5	33 dBm	±2dB	13	17 dBm	±3dB
		6	31 dBm	±3dB	14	15 dBm	±3dB
		7	29 dBm	±3dB	15	13 dBm	±3dB
		8	27 dBm	±3dB	16	11 dBm	±5dB
		9	25 dBm	±3dB	17	9 dBm	±5dB
		10	23 dBm	±3dB	18	7 dBm	±5dB
		11	21 dBm	±3dB	19	5 dBm	±5dB
		12	19 dBm	±3dB			
		DCS, PCS					
		Level	Power	Toler.	Level	Power	Toler.
		0	30 dBm	±2dB	8	14 dBm	±3dB
		1	28 dBm	±3dB	9	12 dBm	±4dB
		2	26 dBm	±3dB	10	10 dBm	±4dB
		3	24 dBm	±3dB	11	8 dBm	±4dB
		4	22 dBm	±3dB	12	6 dBm	±4dB
		5	20 dBm	±3dB	13	4 dBm	±4dB
		6	18 dBm	±3dB	14	2 dBm	±5dB
		7	16 dBm	±3dB	15	0 dBm	±5dB

2. PERFORMANCE

Item	Description	Specification	
5	Output RF Spectrum (due to modulation)	EGSM	
		Offset from Carrier (kHz).	Max. dBc
		100	+0.5
		200	-30
		250	-33
		400	-60
		600~ <1,200	-60
		1,200~ <1,800	-60
		1,800~ <3,000	-63
		3,000~ <6,000	-65
		6,000	-71
		DCS, PCS	
		Offset from Carrier (kHz).	Max. dBc
		100	+0.5
		200	-30
		250	-33
		400	-60
		600~ <1,200	-60
		1,200~ <1,800	-60
		1,800~ <3,000	-65
		3,000~ <6,000	-65
		6,000	-73
6	Output RF Spectrum (due to switching transient)	EGSM	
		Offset from Carrier (kHz)	Max. (dBm)
		400	-19
		600	-21
		1,200	-21
		1,800	-24

2. PERFORMANCE

Item	Description	Specification		
6	Output RF Spectrum (due to switching transient)	DCS, PCS		
		Offset from Carrier (kHz).		Max. (dBm)
		400		-22
		600		-24
		1,200		-24
		1,800		-27
7	Spurious Emissions	Conduction, Emission Status		
8	Bit Error Ratio	EGSM BER (Class II) < 2.439% @-102 dBm		
		DCS, PCS BER (Class II) < 2.439% @-100 dBm		
9	RX Level Report Accuracy	± 3 dB		
10	SLR	8 ± 3 dB		
11	Sending Response	Frequency (Hz)	Max.(dB)	Min.(dB)
		100	-12	-
		200	0	-
		300	0	-12
		1,000	0	-6
		2,000	4	-6
		3,000	4	-6
		3,400	4	-9
		4,000	0	-
12	RLR	2 ± 3 dB		
13	Receiving Response	Frequency (Hz)	Max.(dB)	Min.(dB)
		100	-12	-
		200	0	-
		300	2	-7
		500	*	-5
		1,000	0	-5
		3,000	2	-5
		3,400	2	-10
		4,000	2	
		* Mean that Adopt a straight line in between 300 Hz and 1,000 Hz to be Max. level in the range.		

2. PERFORMANCE

Item	Description	Specification	
14	STMR	13 ± 5 dB	
15	Stability Margin	> 6 dB	
16	Distortion	dB to ARL (dB)	Level Ratio (dB)
		-35	17.5
		-30	22.5
		-20	30.7
		-10	33.3
		0	33.7
		7	31.7
		10	25.5
17	Side Tone Distortion	Three stage distortion < 10%	
18	System frequency (26 MHz) tolerance	≤ 2.5 ppm	
19	32.768KHz tolerance	≤ 30 ppm	
20	Ringer Volume	At least 58 dBspl under below conditions: 1. Ringer set as ringer. 2. Test distance set as 1 m	
21	Charge Current	Fast Charge : Typ. 700 mA Slow Charge : Typ. 70 mA	
22	Antenna Display	Antenna Bar Number	Power
		5	-85 ± 2 dBm
		5 \rightarrow 4	-85 ± 2 dBm
		4 \rightarrow 3	-90 ± 2 dBm
		3 \rightarrow 2	-95 ± 2 dBm
		2 \rightarrow 1	-100 ± 2 dBm
		1 \rightarrow 0	-105 ± 2 dBm
23	Battery Indicator	Battery Bar Number	Voltage
		0	3.36 ~ 3.54 V
		1	3.55 ~ 3.66 V
		2	3.67 ~ 3.72 V
		3	3.73 ~ 3.84 V
		4	3.85 V ~
24	Low Voltage Warning	3.55 ± 0.03 V (Call)	
		3.48 ± 0.03 V (Standby)	

2. PERFORMANCE

Item	Description	Specification
25	Forced shut down Voltage	3.35 ± 0.03 V
26	Battery Type	2 Li-Ion Battery Standard Voltage = 3.7 V Battery full charge voltage = 4.2 V Capacity: 820mAh
27	Travel Charger	Switching-mode charger Input: 100 ~ 240 V, 50/60 Hz Output: 5.2 V, 800 mA

3. TECHNICAL BRIEF

3.1 Transceiver (SI4210)

The RF parts consist of a transmitter part, a receiver part, a frequency synthesizer part, a voltage supply part, and a VCTCXO part.

The Aero I transceiver is the integrated RF front end for multi-band GSM/GPRS digital Cellular handsets and wireless data modems. The integrated solution eliminates the IF SAW filter, external low noise amplifier (LNAs) for three bands, transmit and RF voltage controlled oscillator VCO modules, and other discrete components found in conventional designs.

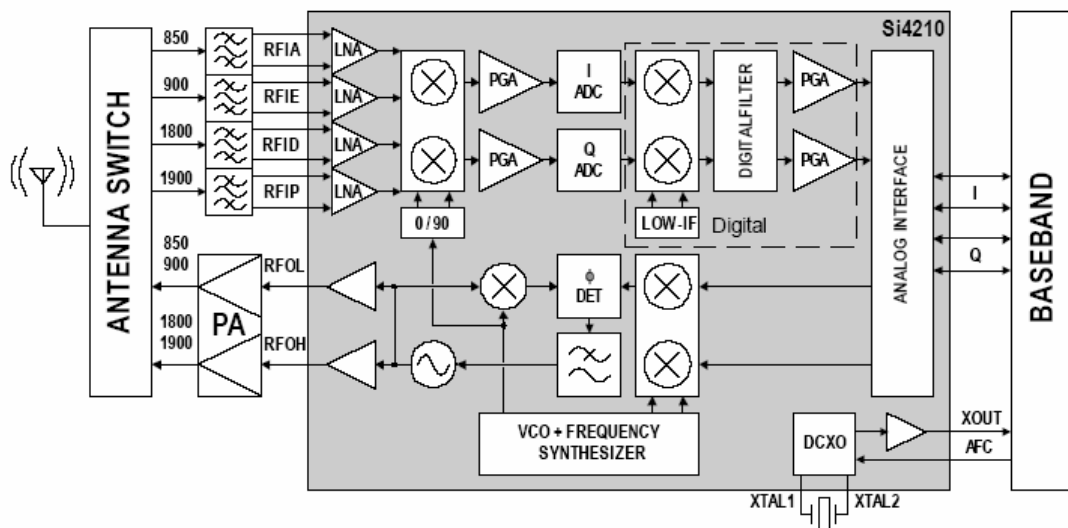


Figure. 3-1 RECEIVER FUNCTIONAL BLOCK DIAGRAM

3. TECHNICAL BRIEF

(1) Receiver Part

The Aero I transceiver uses a low-IF receiver architecture which allows for the on chip integration of the channel selection filters, eliminating the external RF image reject filters and the IF SAW filter required in conventional super-heterodyne architectures.

A. RF front end

RF front end consists of Front End Module(FL501) and dual band LNAs integrated in transceiver (U502). The Received RF signals(GSM 925MHz ~ 960MHz, DCS 1805MHz ~ 1880MHz PCS 1905MHz ~ 1980MHz) are fed into the antenna or Mobile switch.

The Front End Module(FL501) is used to control the Rx and Tx paths. And, the input signals VC1, VC2, VC3 of a FL500 are directly connected to baseband controller to switch either Tx or Rx path on.

The logic and current is given below Table 3-1

	VC1	VC2	VC3
GSM Tx	0V	0V	2.5 ~ 3.0 V
DCS, PCS Tx	0V	2.5 ~ 3.0 V	0 V
GSM / DCS Rx	0V	0 V	0 V
GSM / DCS Rx	2.5 ~ 3.0 V	0 V	0 V

Table 3-1 THE LOGIC AND CURRENT

Three differential-input LNAs are integrated in SI4210. The GSM input supports the GSM 850 (864-894MHz) or E-GSM 900 (925-960MHz) bands. The DCS input supports the DCS 1800 (1805-1880 MHz) band. The PCS input supports the PCS 1900 (1930-1990 MHz) band.

The LNA inputs are matched to the 150 Ω balanced output SAW filters through external LC matching networks. The LNA gain is controlled with the LNAG[1:0] and LNAC[1:0] bits in register 05h (Figure 3-2).

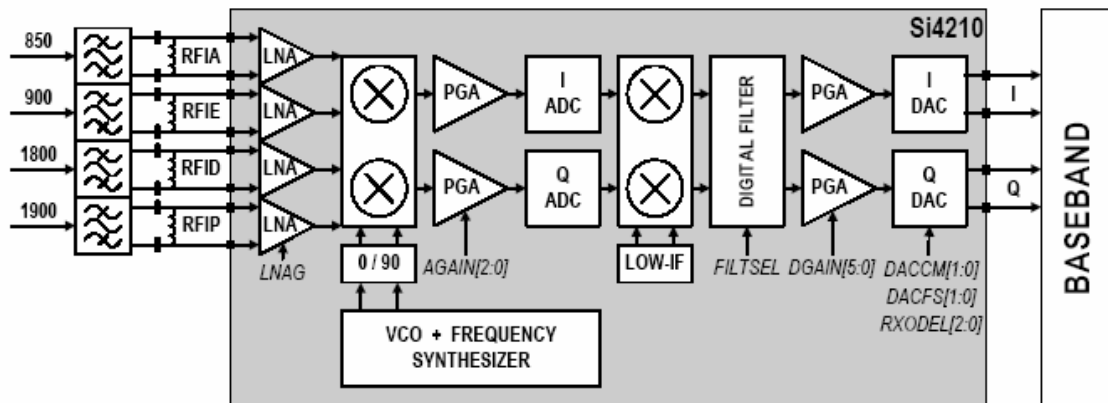


Figure. 3-2 SI4210 RECEIVER PART

B. Intermediate frequency (IF) and Demodulation

A quadrature image-reject mixer downconverts the RF signal to a 100KHz intermediate frequency (IF) with the RFLO from the frequency synthesizer. The RFLO frequency is between 1737.8 to 1989.9 MHz, and is internally divided by 2 for GSM 850 and E-GSM 900 modes. The mixer output is amplified with an analog programmable gain amplifier (PGA), which is controlled with the AGAIN[2:0] bits in register 05h (Figure3-2).

The quadrature IF signal is digitized with high resolution A/D converters (ADCs).

The ADC output is downconverted to baseband with a digital 100KHz quadrature LO signal. Digital decimation and IIR filters perform channel selection to remove blocking and reference interference signals. The selectivity setting (CSEL=0) or a low selectivity setting (CSEL=1). The low selectivity filter has a flatter group channelization filter is in the baseband chip. After channel selection, the digital output is scaled with a digital PGA, which is controlled with the DGAIN [5:0] bits in register 05h.

The amplified digital output signal go through with DACs that drive a differential analog signal onto the RXIP,RXIN,RXQP and RXQN pins to interface to standard analog ADC input baseband ICs. No special processing is required in the baseband for offset compensation or extended dynamic range.

Compared to a direct-conversion architecture, the low-IF architecture has a much greater degree of immunity to dc offsets that can arise from RF local oscillator(RFLO) self-mixing, 2nd order distortion of blockers, and device 1/f noise.

3. TECHNICAL BRIEF

(2) Transmitter Part

The transmit (Tx) section consists of an I/Q baseband upconverter, and offset phase-locked loop (OPLL) and two output buffers that can drive external power amplifiers (PA), one for the GSM 850 (824-849 MHz) and E-GSM 900 (880-915 MHz) bands and one for the DCS 1800 (1710-1785 MHz) and PCS 1900 (1850-1910MHz) bands.

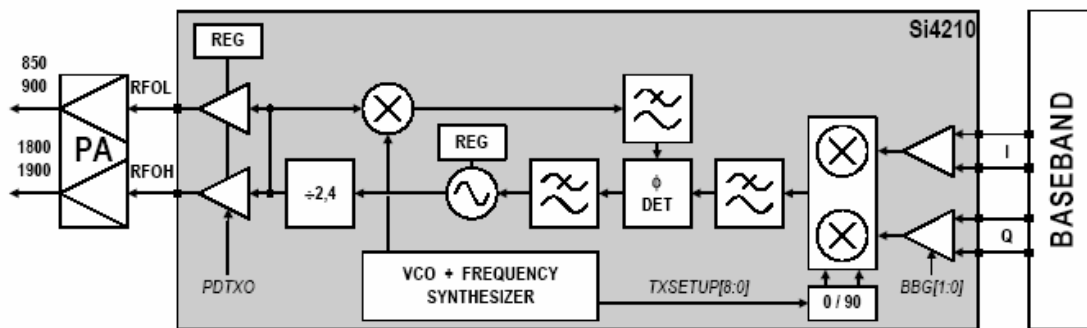


Figure. 3-3 SI4210TRANSMITTER PART

A. IF Modulator

The baseband converter(BBC) within the GSM chipset generates I and Q baseband signals for the Transmit vector modulator. The modulator provides more than 40dBc of carrier and unwanted sideband rejection and produces a GMSK modulated signal. The baseband software is able to cancel out differential DC offsets in the I/Q baseband signals caused by imperfections in the D/A converters.

The Tx-Modulator implements a quadrature modulator. A quadrature mixer upconverts the differential in-phase (TXIP, TXIN) and quadrature (TXQP, TXQN) signals with the IFLO to generate a SSB IF signal that is filtered and used as the reference input to the OPLL.

The IFLO frequency is generated between 766 and 896 MHz and internally divided by 2 to generate the quadrature LO signals for the quadrature modulator, resulting in an IF between 383 and 448 MHz. For the E-GSM 900 band, two different IFLO frequencies are required for spur management. Therefore, the IF PLL must be programmed per channel in the E-GSM 900 band.

B. OPLL

The OPLL consists of a feedback mixer, a phase detector, a loop filter, and a fully integrated TXVCO. The TXVCO is centered between the DCS 1800 and PCS 1900 bands, and its output is divided by 2 for the GSM 850 and E-GSM 900 bands. The RFLO frequency is generated between 1272 and 1483 MHz. To allow a single VCO to be used for the RFLO, high-side injection is used for the GSM 850 and E-GSM 900 bands, and low-side injection is used for the DCS 1800 and PCS 1900 bands. The I and Q signals are automatically swapped when switching bands. Additionally, the SWAP bit in register 03h can be used to manually exchange the I and Q signals.

Low-pass filters before the OPLL phase detector reduce the harmonic content of the quadrature modulator and feedback mixer outputs. The cutoff frequency of the filters is programmable with the FIF[3:0] bits in register 04h (Figure 3-3), and should be set to the recommended settings detailed in the register description.

3.2 PAM (SKY77328)

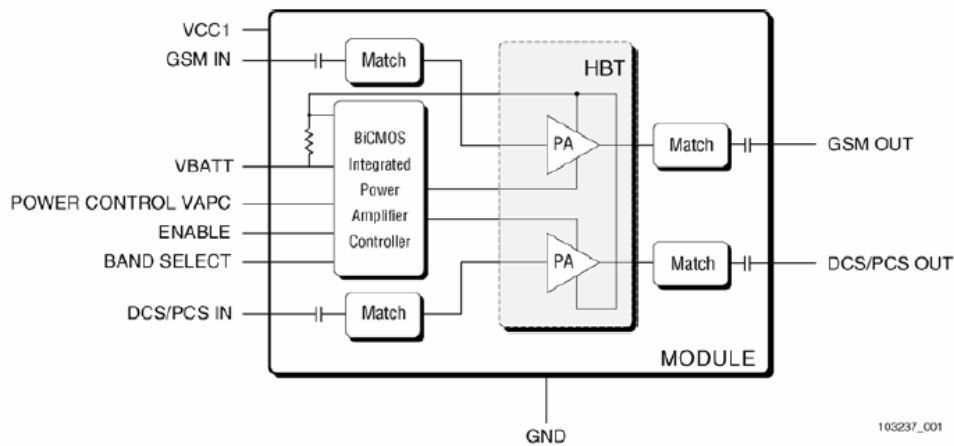


Figure. 3-4

RF input and output ports of the SKY77328 are internally matched to a 50 Ω load to reduced the number of external components for a quad-band design. This chip contains band-select switching circuitry to select GSM (logic 0) or DCS/PCS (logic 1) as determined from the Band Select (BS) signal. The BS pin selects the PA output (DCS/PCS out or GSM850/900 out) and the Analog Power Control (VAPC) controls the level of output power.

3. TECHNICAL BRIEF

3.3 26 MHz Clock (VCTCXO)

The 26 MHz clock(X501) consists of a TCXO(Temperature Compensated Crystal Oscillator) which oscillates at a frequency of 26 MHz. It is used within the Si4210, analog base band chipset (U100, AD6535), digital base band chipset (U101, AD6527)

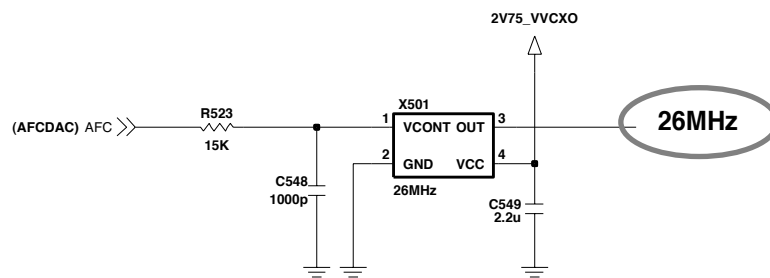


Figure 3-5 VCTCXO CIRCUIT DIAGRAM

3.4 Power Supplies for RF Circuits (RF LDO)

Two regulators are used for RF circuits. One is MIC5255 (U504), and the other is one port of AD6535 (U100).

MIC5255 (U504) supplies power to transceiver (SI4210, U502). One port of AD6535 supplies power to VCTCXO (X501). Main power (VBAT) from battery is used for PAM (SKY77328, U501) because PAM requires high power.

Supplier	Voltage	Powers	Enabled signal
U504(VRF)	2.85 V	U502	CLKON
U100(VVCXO)	2.75 V	X501	
Battery(VBAT)	3.4 ~ 4.2 V	U501, U504	

Table 3-2 RF POWER SUPPLIERS

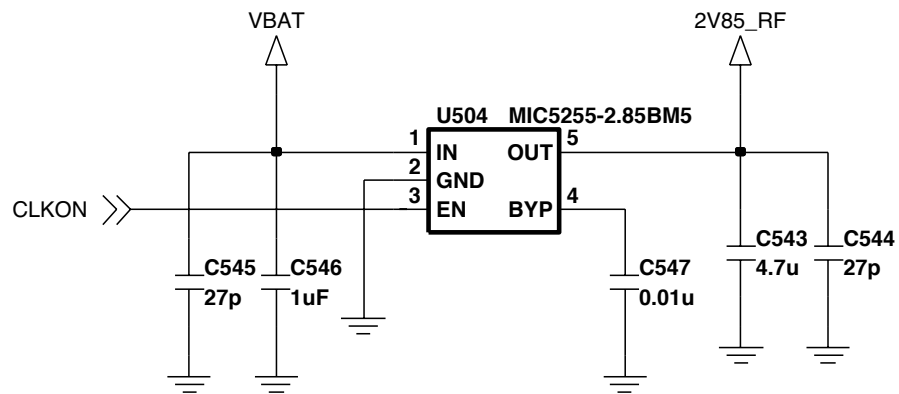


Figure 3-6. RF LDO CIRCUIT DIAGRAM

3. TECHNICAL BRIEF

3.5 Digital Main Processor (AD6527B)

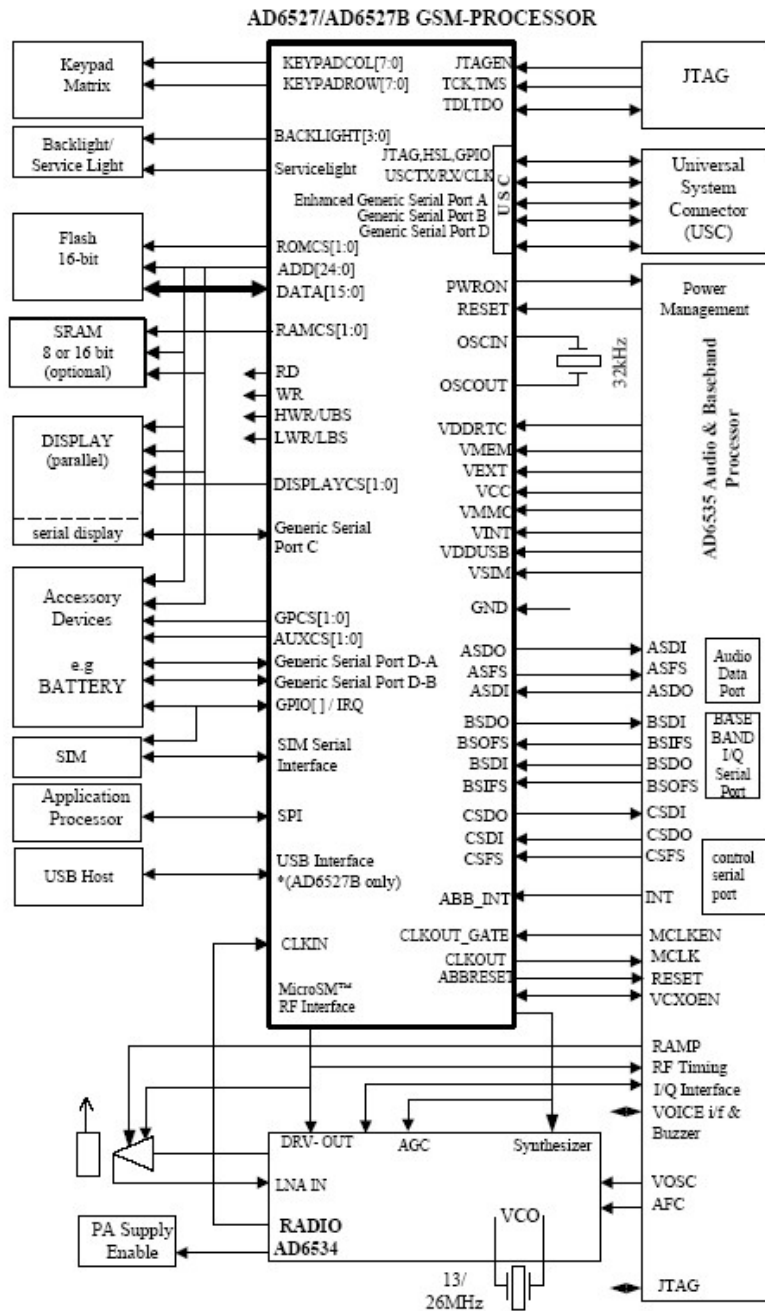


Figure 3-7. SYSTEM INTERCONNECTION OF AD6527 EXTERNAL INTERFACE

- AD6527 is an ADI designed processor.

- AD6527 consists of

1. Control Processor Subsystem

- 32-bit ARM7TDMI Control Processor
- 58.5 MHz operation at 1.7V
- On-board 16KB instruction/Data Cache
- 1 Mbits of on-chip System SRAM

2. DSP Subsystem

- 16-bit Fixed Point DSP Processor
- 91 MIPS at 1.7V
- 16K word Data and 16K word Program SRAM
- 4K word Program Instruction Cache
- Architecture supports Full Rate, Enhanced Full Rate, Half Rate, and AMR Speech Encoding/Decoding Algorithms

3. Peripheral Subsystem

- Shared on-chip peripheral and off-chip interface:
- Support for Burst and Page Mode Flash
- Support for Pseudo SRAM
- Ciphering module for GPRS supporting GAE1 and GAE2 encryption algorithms
- Parallel and Serial Display Interface
- 8 x 8 Keypad Interface
- Four independent programmable backlight plus One Service Light
- 1.8V and 3.0V, 64 kbps SIM interface
- Universal System Connector Interface
- Slow, Medium and Fast IrDA transceiver interface
- Enhanced Generic Serial Port
- Dedicated SPI interface
- Thumbwheel Interface
- JTAG Interface for Test and In-Circuit Emulation

4. Other

- Supports 13 MHz and 26 MHz Input Clocks
- 1.8V Typical Core Operating Voltages
- 204-Ball LFBGA(mini-BGA) Package

5. Applications

- GSM900/DCS1800/PCS1900/PCS850 Wireless Terminals
- GSM Phase 2+ Compliant
- GPRS Class 12 Compliant
- Multimedia Services(MMS)
- Extended Messaging System(EMS)

3. TECHNICAL BRIEF

3.5.1 Interconnection with external devices

A. RTC block interface

Countered by external X-TAL
The X-TAL oscillates 32.768KHz

B. LCD module interface

The LCD module is controlled by AD6527 and MV8620.
In operating mode, the AD6527 controls the LCD module through LCD_CS, LCD_RS, L_DATA[15:00], LCD_BACKLIGHT, LCD_RESET, LCD_WR, 2V8_MM.

Signals	Description
LCD_CS	LCD driver IC chip enable.
LCD_RESET(GPIO 15)	This pin resets LCD driver IC.
LCD_RS	This pin select Command or Data.
L_DATA[15:00]	The pins carry LCD data.
LCD_WR	LCD data write enable signal.
2V8_MM	2.8V voltage is supplied to LCD driver IC.
LCD_BACKLIGHT (GPO_23)	This pin controls LCD backlight level.

Table 3-2. LCD CONTRON SIGNALS DISCRIPTION

CHARGE PUMP

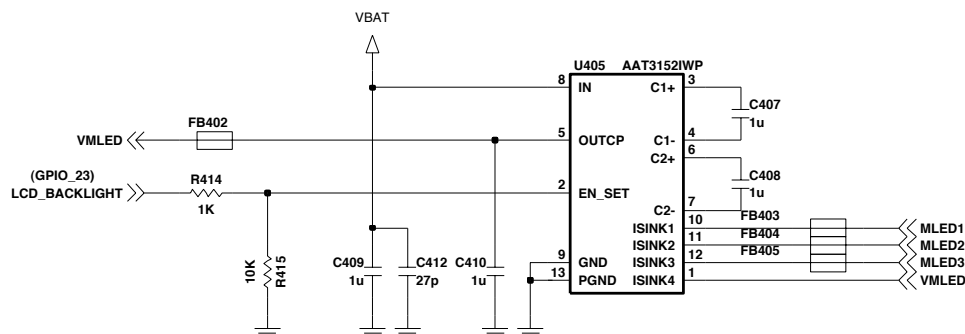


Figure 3-8.

C. RF interface

The AD6527 controls RF parts through PA_BAND, ANT_SW1, ANT_SW2, CLKON, PA_EN, S_EN, S_DATA, S_CLK, RF_RST.

Signals	Description
PAM Band Select	PA_BAND (GPO 17)
ANT_SW1 (GPO 9)	Antenna switch Band Select
ANT_SW2 (GPO 11)	Antenna switch Band Select
CLKON	RF LDO Enable/Disable
PA_EN (GPO 16)	PAM Enable/Disable
S_EN (GPO 19)	PLL Enable/Disable
S_DATA (GPO 20)	Serial Data to PLL
S_CLK (GPO 21)	Clock to PLL
RF_RST(GPO 10)	Power down Input

Table 3-4. RF CONTRON SIGNALS DISCRIPTION

3. TECHNICAL BRIEF

D. SIM interface

The AD6527 provides SIM Interface Module. The AD6527 checks status periodically during established call mode whether SIM card is inserted or not, but it doesn't check during deep Sleep mode. In order to communicate with SIM card, 3 signals-SIM_DATA, SIM_CLK, SIM_RST(GPIO_23)-are required. The descriptions about the signals are given by below Table 3-5 in detail.

Signals	Description
SIM_DATA	This pin receives and sends data to SIM card. This model can support only 3.0 volt interface SIM card.
SIM_CLK	Clock 3.25MHz frequency.
SIM_RST (GPIO_23)	Reset SIM block

Table 3-5. SIM CONTROL SIGNAL DESCRIPTION

SIM CONNECTOR

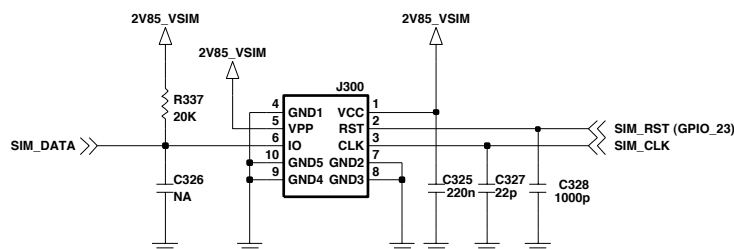


Figure 3-9. SIM Interface of AD6527

E. Key interface

Include 6 columns , 6 rows and additional GPIO 35/36 for KEY_ROW5/KEY_COL5.
The AD6527B detects whether key is pressed or not by using interrupt method.

F. AD6535 interrupt

AD6535 provides an active-high interrupt output signal. Interrupt signals are generated by the Auxiliary ADC, audio, and charger modules.

3.5.2 AD6527 Architecture

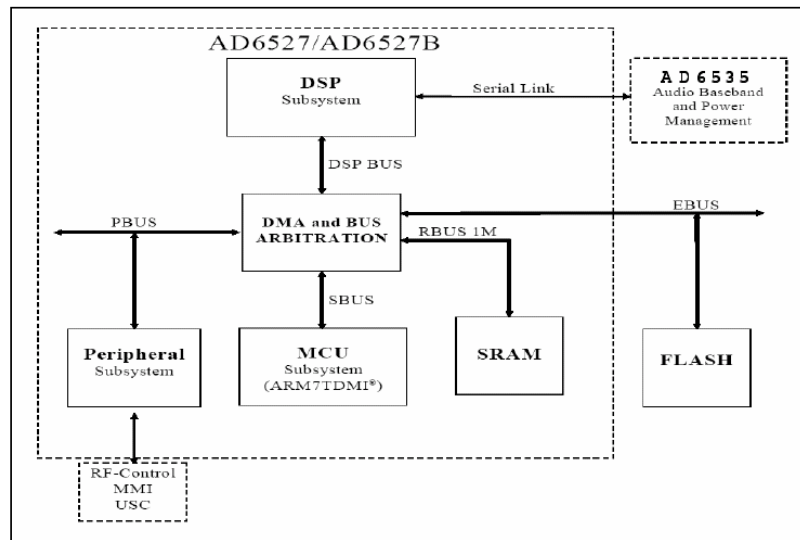


Figure 3-10. AD6527 Architecture

The internal architecture of AD6527 is shown above Figure 3-10. AD6527 regroups three Main subsystems connected together through a dynamic and flexible communication bus network.

It also includes onboard system RAM (SRAM) and interfaces with external Flash Memory, Baseband converter functions, and terminal functions like MMI, SIM and Universal System Connector (USC). The Digital Signal Processing (DSP) subsystem primarily hosts all the Speech processing, channel equalization and channel codec functions. The code used to implement such functions can be stored in external Flash Memory and dynamically downloaded on demand into the DSP's program RAM and Instruction Cache.

The micro-controller subsystem supports all the GSM terminal software, including the layer 1, 2 and 3 of the GSM protocol stack, the MMI, and applications software such as data services, test and maintenance. It is tightly associated with on-chip system SRAM and also includes boot ROM memory with a small dedicated routine to facilitate the initialization of the external Flash Memory via code download using the on-chip serial interface to the external Flash Memory interface.

The peripheral subsystem is composed of system peripherals such as interrupt controller, Real Time clock, watch dog timer, power management and a timing and control module. It also Includes peripheral interfaces to the terminal functions: keyboard, battery supervision, radio and display. Both the DSP and the MCU can access the peripheral subsystem via the peripheral bus (PBUS). For program and data storage, both the MCU subsystem and the DSP subsystem can Access the on chip system SRAM and external memory such Flash Memory. The access to the SRAM module is made through the RAM Bus (RBUS) under the control of the bus arbitration logic. Similarly, access to the Flash Memory is through the parallel External Bus (EBUS).

3. TECHNICAL BRIEF

3.6 Analog Main & Power Management Processor (AD6535)

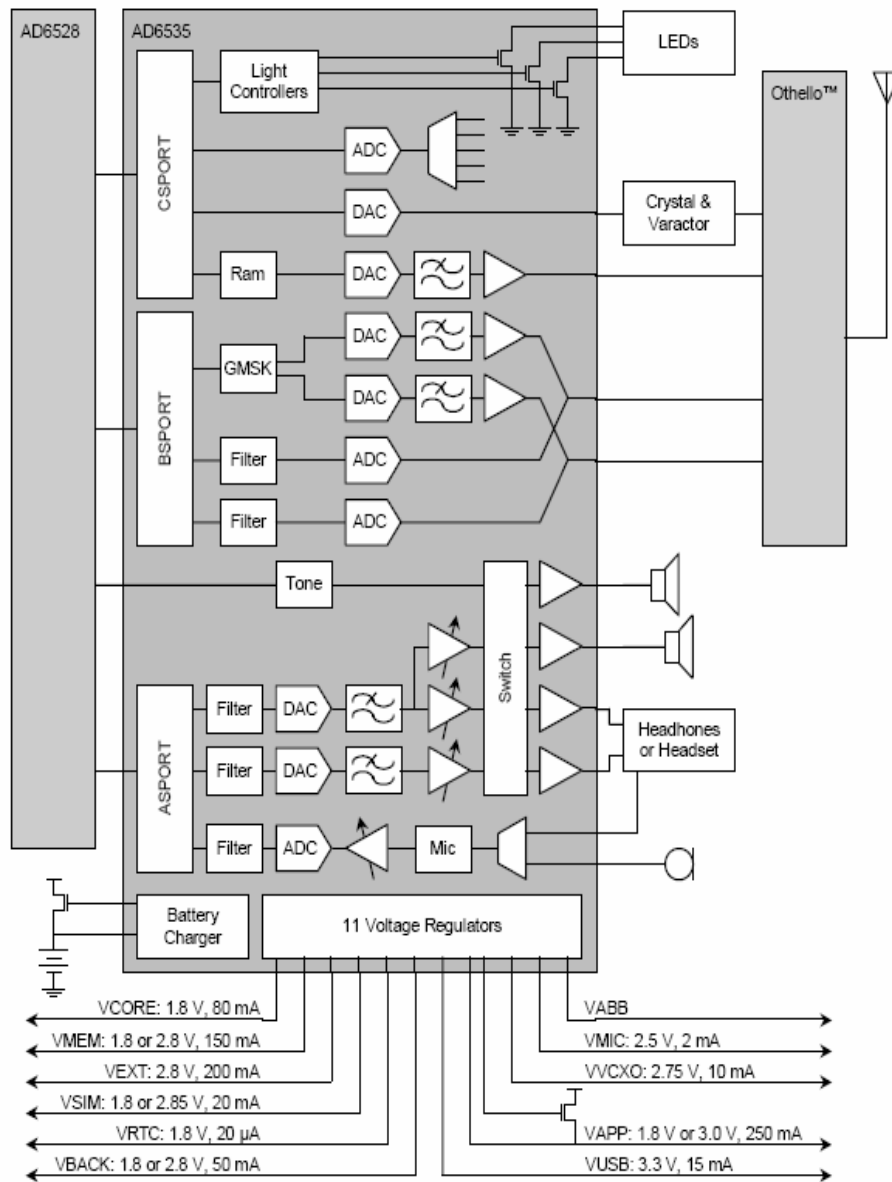


Figure 3-11. AD6535 FUNCTIONAL BLOCK DIAGRAM

3. TECHNICAL BRIEF

- AD6535 is an ADI designed Analog Baseband processor. AD6535 covers the processing GSM modulation interface, Aux ADC, Voice signal processing and Power Management.

- AD6535 consists of

1. BB Transmit section

- GSM Modulation
- I-channel & Q-channel Transmit DACs and Filters
- Power Ramping DAC

2. BB Receive section

- I-channel & Q-channel Receive ADCs and Filters

3. Auxiliary section

- Voltage Reference
- Automatic Frequency Control DAC
- Auxiliary ADC
- Light Controllers

4. Audio Section

- 8 kHz & 16 kHz Voiceband Codec
- 48 kHz Monophonic DAC
- Power Amplifiers

5. Power Management section

- Voltage Regulators
- Battery Charger
- Battery Protection

6. Digital Processor section

- Control, Baseband, and Audio Serial Ports
- Interrupt Logic

3. TECHNICAL BRIEF

3.6.1 Baseband Transmit Section

1. The AD6535 Baseband Transmit Section is designed to support GMSK for both single slot and multi-slot application.
2. The AD6535 includes a digital GMSK modulator which is used for GSM application. The GMSK modulator uses a ROM lookup table to modulate the serial data stream from the BSPORT. The GMSK modulator is based on 3GPP TS 45.004 ver.5.1.0 Release 5

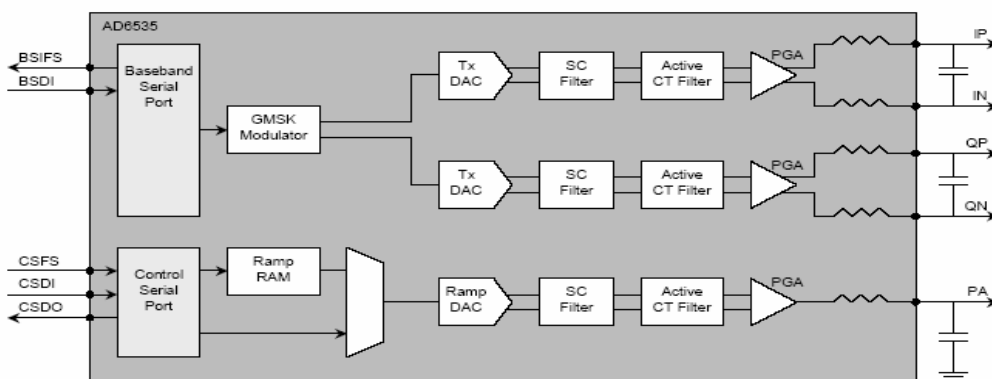


Figure 3-12. AD6535 BASEBAND TRANSMIT SECTION

3.6.2 Baseband Receive Section

1. This section consists of two identical ADC channels that process baseband in-phase(I) and quadrature(Q) input signals.

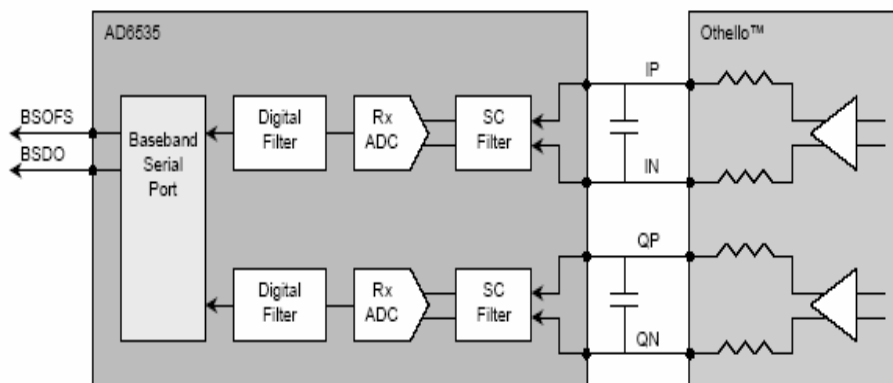


Figure 3-13. AD6535 BASEBAND RECEIVER SECTION

3.6.3 Auxiliary Section

1. This section includes an Automatic Frequency Control(AFC) DAC, voltage reference buffers, an Auxiliary ADC, and light controllers.

- AFC DAC: 13 bits

2. This section also contains AUX ADC and Voltage Reference

- IDAC: 10 bits

- The Auxiliary ADC provides :

- Two differential inputs for temperature sensing.
- A differential input for the battery charger current sensor

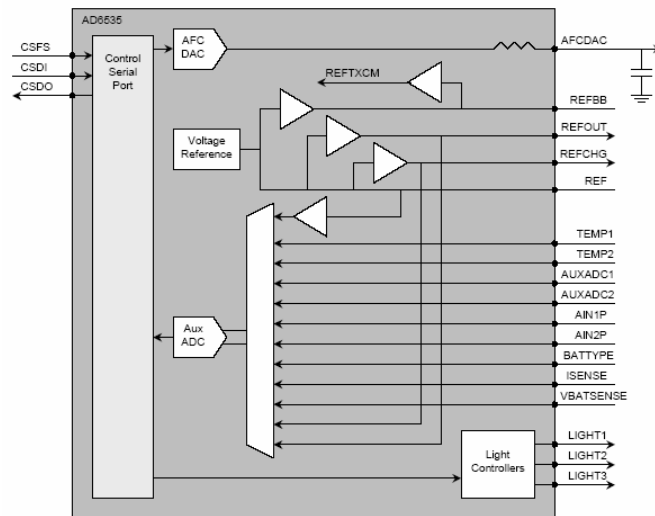


Figure 3-14. AD6535 AUXILIARY SECTION

3. TECHNICAL BRIEF

3.6.4 Audio Section

1. The AD6535 Audio section supports communications and personal audio applications.
2. The Audio Section provides an audio codec with two digital-to-analog converter, a ring tone volume controller, a microphone interface, and analog input and output channels.

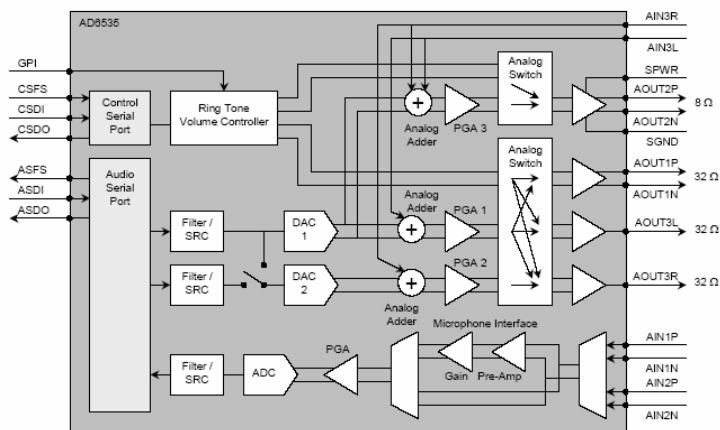


Figure 3-15. AD6535 AUDIO SECTION

3.6.5 Power Management

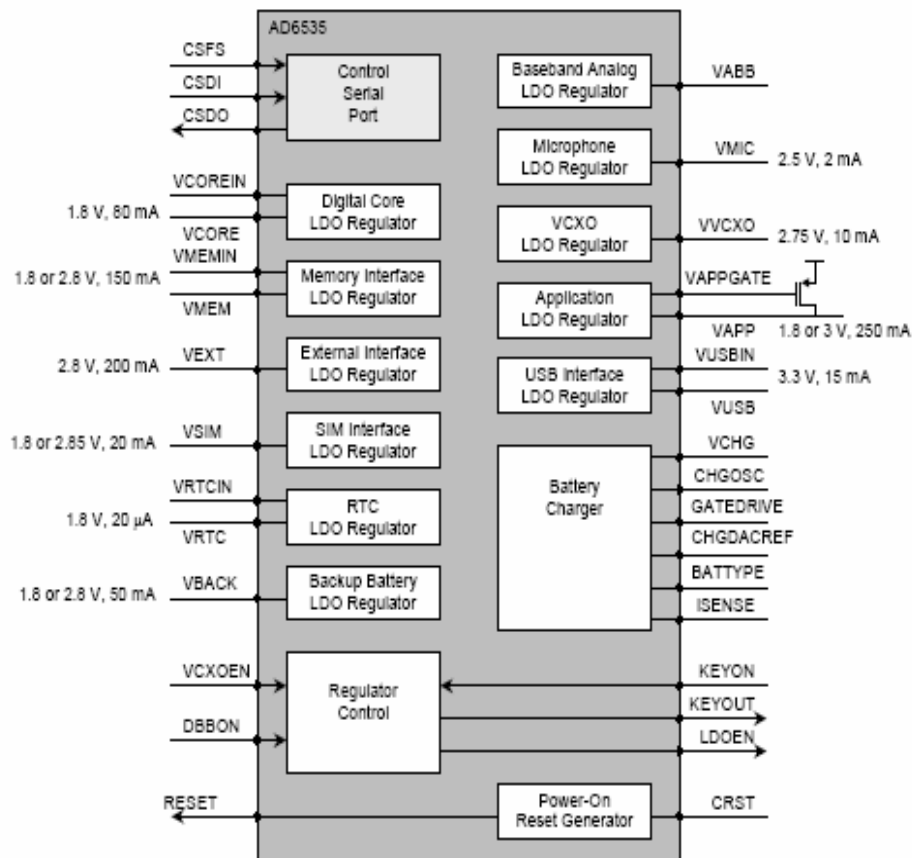


Figure 3-16. AD6535 POWER MANAGEMENT SECTION

1. Power-on sequence logic

1. The AD6535 controls Power-on sequence
2. Power-on sequence
 - If a battery is inserted, the battery powers the 8 LDOs up.
 - Then if PWRONKEY is detected, the LDOs outputs turn on.
 - REFOUT is also enabled
 - Reset is generated and sent to the AD6527

3. TECHNICAL BRIEF

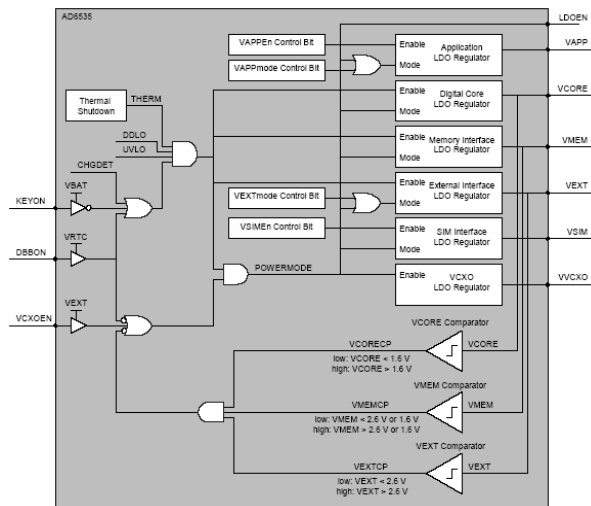


Figure 3-17. AD6535 POWER MODE LOGIC

2. LDO Block

1. There are 8 LDOs in the AD6535.

- VCORE : supplies Digital baseband Processor core and AD6535 digital core
- VMEM : supplies external memory and the interface to the external memory on the digital baseband processor (1.8V or 2.8V, 150mA)
- VEXT : supplies Radio digital interface and high voltage interface (2.8V, 170mA)
- VSIM : supplies the SIM interface circuitry on the digital processor and SIM card (2.85V, 20mA)
- VRTC : supplies the Real-Time Clock module (1.8 V, 20 μ A)
- VABB : supplies the analog portions of the AD6535
- VMIC : supplies the microphone interface circuitry (2.5 V, 1 mA)
- VVCXO : supplies the voltage controlled crystal oscillator (2.75 V, 10 mA)
- VBACK : charges the backup battery and supplies the RTC regulator (2.8V, 1.8V)
- VAPP : supplies application co-processors such as a touch screen digitizer (3.0V, 1.8V)
- VUSB : supplies the USB interface.

3.7 Battery Charging Block

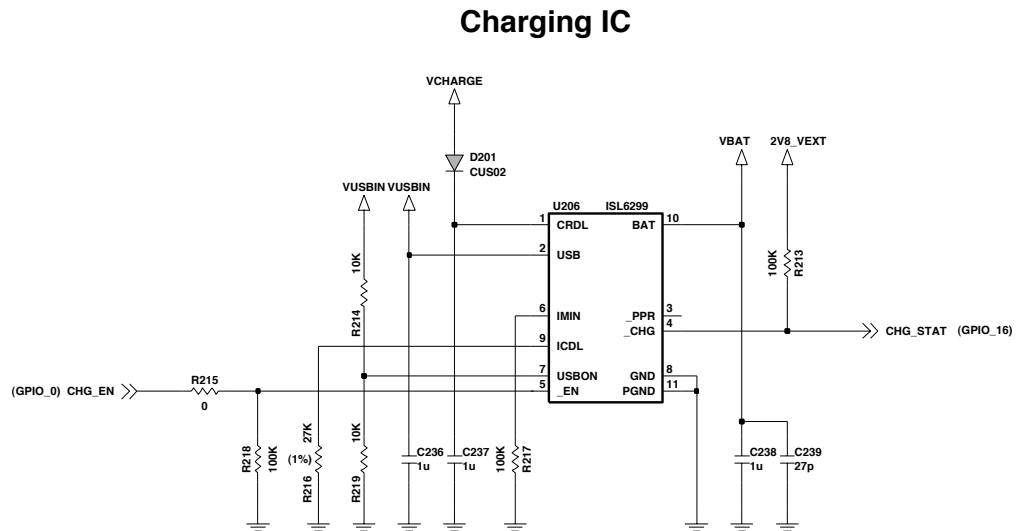


Figure 3-18. CIRCUIT FOR BATTERY CHARGING

The ISL6299 is designed for a single-cell Li-ion or Li-polymer battery charging circuit that accepts both a USB port and a desktop cradle as its power source.

Input Auto Selection

When both input sources are present, the charger selects only one power source to charge the battery. When the CRDL input is higher than the POR threshold, CRDL is selected as the power source. Otherwise the USB input is selected. If the CRDL input voltage is below the battery voltage but the USB input voltage is higher than the battery voltage, then the USB input is used to charge the battery. The control circuit always cuts both internal power devices off before switching from one power source to the other to avoid a cross conduction of both power MOSFETs.

3. TECHNICAL BRIEF

USB Charge Current

When the USB port is selected as the power source, the charge current is enabled by the logic input at the USBON pin. When the USBON is driven to logic LOW, the charger is disabled. When the USBON is driven to logic HIGH, the charge current is fixed at a typical value of 380mA. Thus for the USB input, the USBON pin has a similar function as the EN pin. The following table describes the USB charge control by both the USBON pin and EN pin

The USBON pin is equivalent to a logic LOW when left floating. Typically the P-channel MOSFET for the USB input has an $r_{DS(ON)}$ of 700m Ω at room temperature. With a 380mA charge current, the typical head room is 260mV. Thus, if the input voltage drops to a level that the voltage difference between the USB pin and the BAT pin is less than 260mV, the $r_{DS(ON)}$ becomes a limiting factor of the charge current; and the charger drops out the constant current regulation.

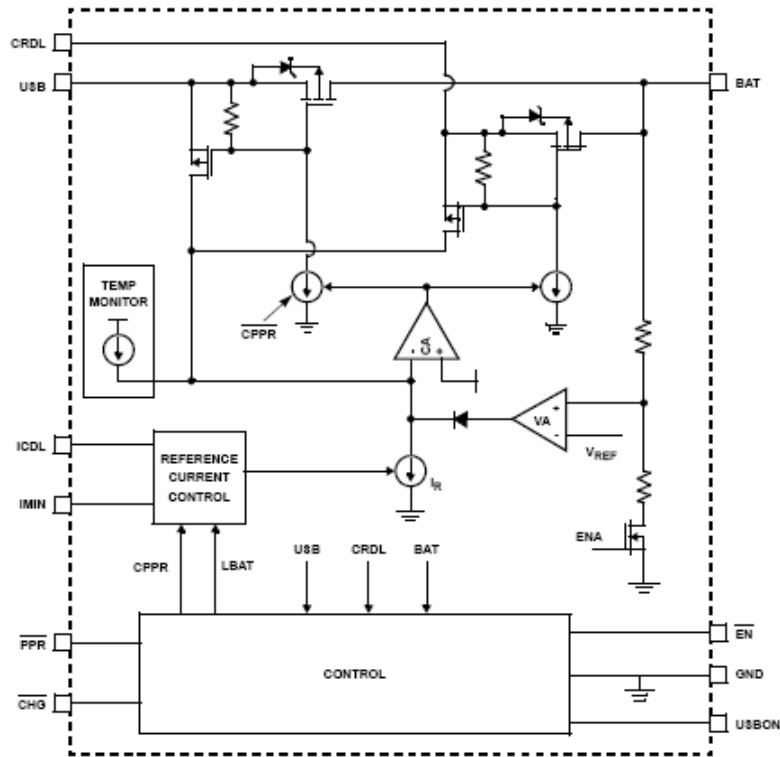


Figure 3-19. BLOCKDIAGRAM

Cradle Charge Current

The cradle charge current is enabled by the EN pin only. The USBON pin has no control on the cradle charge current. The cradle charge current is programmed with the external resistor connected between the ICDL pin and the GND pin. The current can be calculated with one of the equations given in the ICDL pin description. Two equations are used for the cradle current calculation, each corresponds to a different range of currents. The typical $r_{DS(ON)}$ of the P-channel MOSFET for the CRDL input is 600m Ω at room temperature. When the head room between the input and output voltages is small, the actual charge current, similar to the USB case, could be limited by the $r_{DS(ON)}$. On the other hand, if the head room between the input and output voltages is large, the charge current may be limited by the thermal foldback threshold.

Floating Charge Voltage

The floating voltage during the constant voltage phase is 4.2V. The floating voltage has an 1% accuracy over the ambient temperature range of -40°C to 70°C.

3. TECHNICAL BRIEF

Trickle Charge Current

When the battery voltage is below the minimum battery voltage V_{MIN} given in the electrical specification, the charger operates in a trickle/preconditioning mode, where the charge current is typically 14% of the programmed charge current for the cradle input. If power comes from the USB input, the trickle mode current is approximately 53mA.

End-of-Charge Indication

The CHG pin, internal open-drain MOSFET, turns off when the charge current falls below the I_{MIN} threshold, which is programmable for the cradle input and fixed for the USB input. Once the end-of-charge-current is reached, the CHG status will be latched. The latch can be reset at one of the following conditions:

1. The part is disabled and re-enabled
2. The selected input source has been removed and reapplied
3. The USBON turns LOW and turns back to HIGH for the USB input
4. The BAT pin voltage falls below the CV mode threshold. Regardless of the CHG pin status, however, the charger does not turn off as long as an input power source is attached.

Power Presence Indication

When either the USB or the cradle input voltage is above the POR threshold, the PPR pin, internal open-drain MOSFET, turns on indicating the presence of input power.

Power-Good Range

Even if there is a power present, the charger will not deliver any current to the output if the power-good conditions are not met. The following two conditions together define the power-good voltage range:

1. V_{CDRL} or $V_{USB} > V_{POR}$
2. V_{CDRL} or $V_{USB} - V_{BAT} > V_{OS}$

where the V_{OS} is the offset voltage for the input and output voltage comparator, discussed shortly. Both V_{POR} , V_{OS} have hysteresis, as given in the Electrical Specification table.

The charger will not charge the battery if the input voltage does not meet the powergood conditions.

Thermal Foldback (Thermaguard™)

The thermal foldback function reduces the charge current when the internal temperature reaches the thermal foldback threshold, which is typically 100°C. This protects the Charger from excessive thermal stress at high input voltages.

3.8 MUMTI-MEDIA INTERFACE

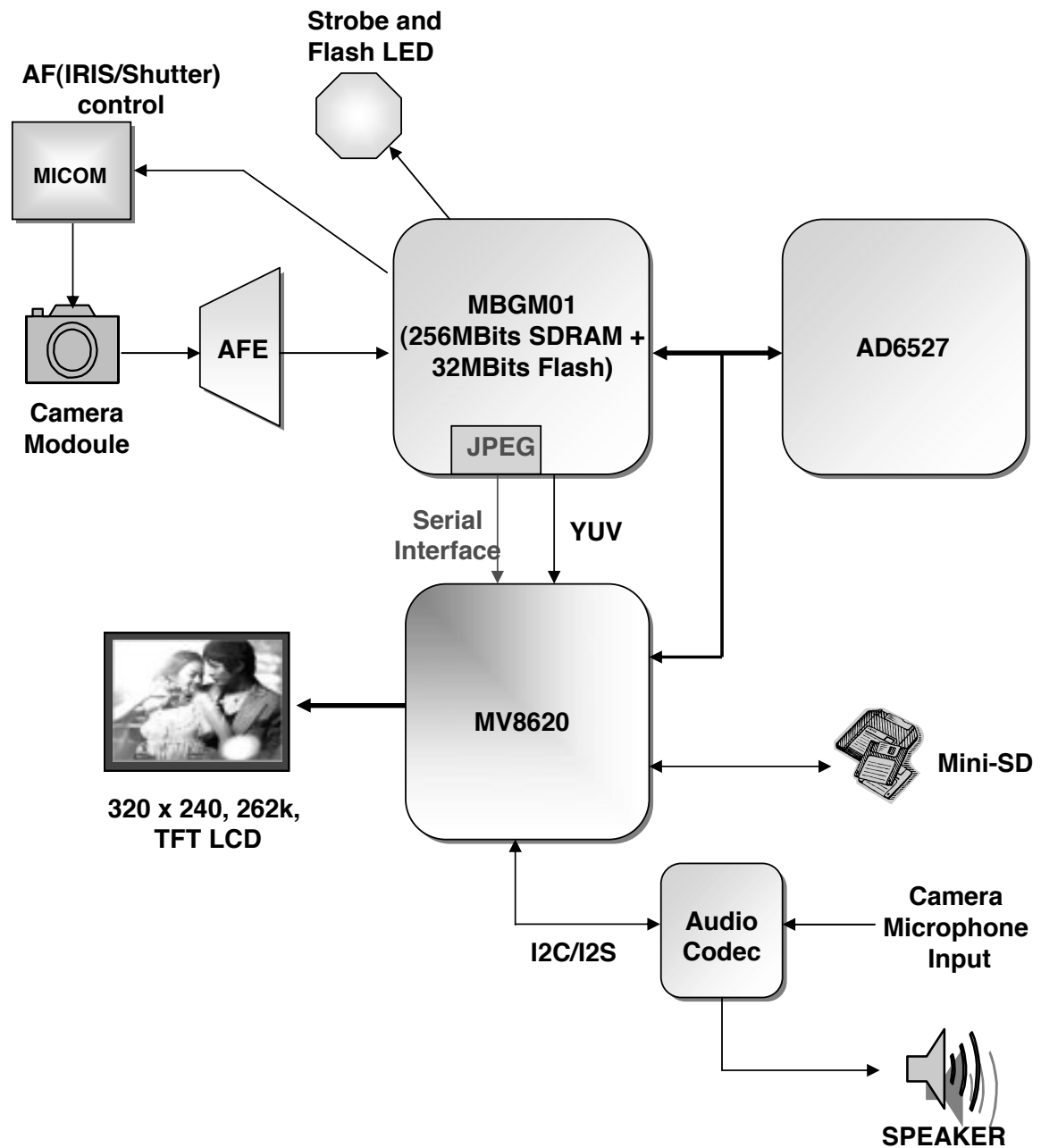


Figure 3-20.

3. TECHNICAL BRIEF

3.8.1 Camera Module

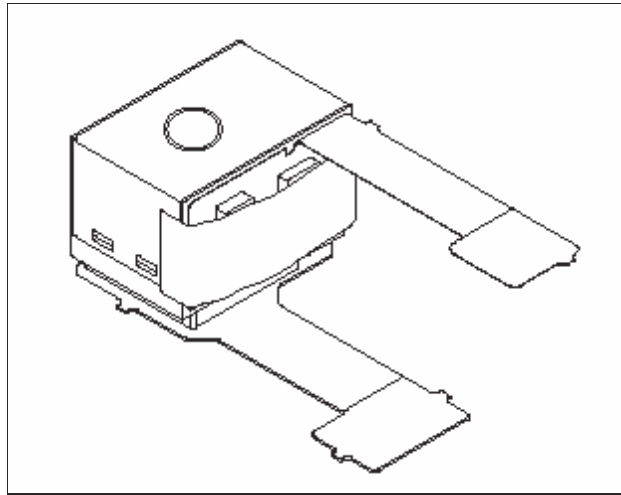


Figure 3-21.

The IU495C-L is a lens module that uses a diagonal 7.17mm (Type 1/2.5) 5.13M effective pixels interline type CCD solid-state image sensor with a square pixel array.

This module has an on-chip AF (auto focus) function actuator that allows it to focus on subjects from macro (4cm) to infinite range.

R, G, B primary color mosaic filters are used as the color filters, and at the same time High sensitivity and low dark current are achieved through the adoption of Super HAD CCD technology.

This chip features an electronic shutter with variable charge-storage time.

Features

- Supports frame readout system
- High horizontal and vertical resolution
- 4/16-line readout horizontal addition mode (60 frames/s)
- 4/8-line readout horizontal addition mode (30 frames/s)
- Supports AF mode (120 frames/s)
- Square pixel
- Horizontal driving frequency of 27MHz
- No voltage adjustments (Reset gate and substrate bias are not adjusted.)
- High resolution, high color reproducibility, high sensitivity, low dark current
- Excellent anti-blooming characteristics
- Variable-speed shutter function
- R, G, B primary color mosaic filters on chip
- 30-pin flexible PC board, B to B connector (module connect), 20-pin B to B connector (AF drive) specifications

3.8.2 AFE(Analog Front End)

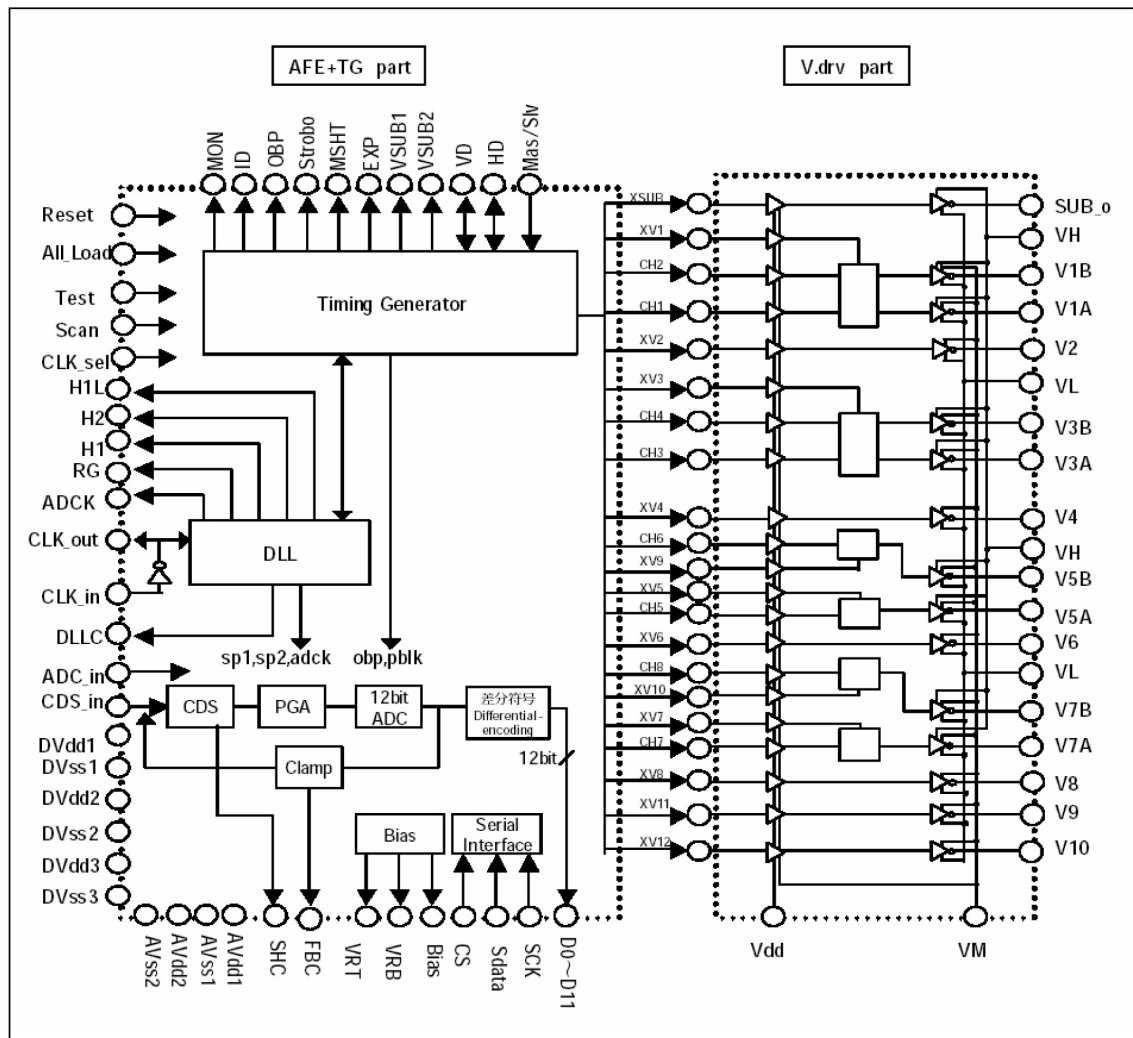


Figure 3-22.

3. TECHNICAL BRIEF

- **Function**

- CDS(Correlation Double Sampling)
- PGA (Programmable Gain Amp)
- Serial interface control
- 12 bit ADC
- P-LFBGA0808-113 package

- **Feature**

- PGA have to High sensitivity of -8 ~ 34.84 dB 10 bit gradation
- CDS is in control of CCD Reset Noise
- Serial interface is in control of PGA gain, plus timing and so on.
- 12 bit AD converter
- V-Driver and T/G are in control of CCD sensor

3.8.3 Strobe and Flash LED Module

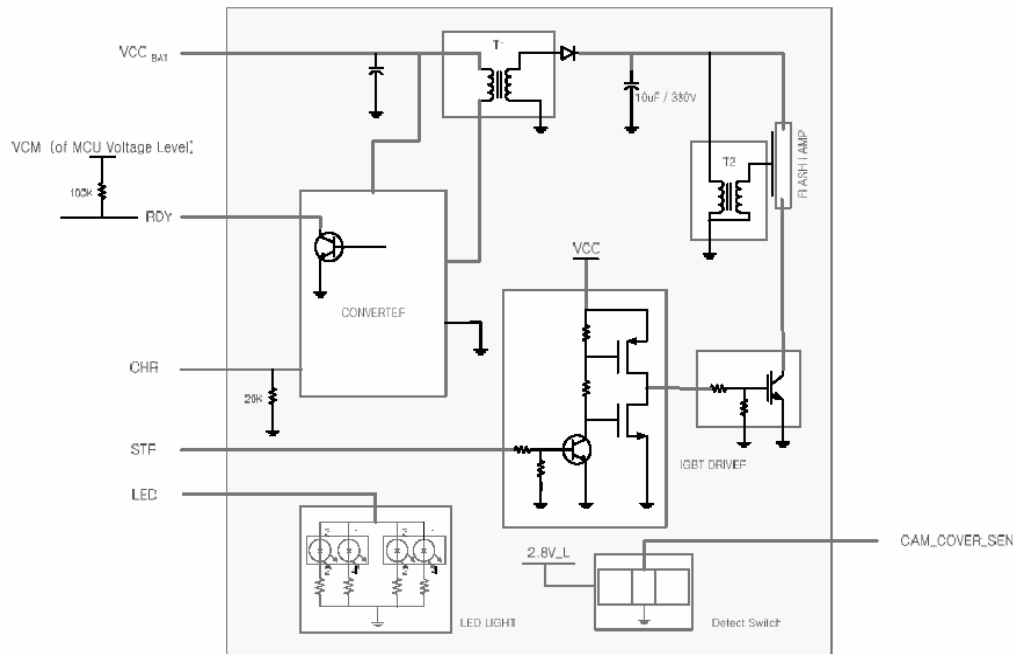


Figure 3-23.

Features

- High Light Intensity
 - over 3,500 lux at 1m far from flashtube (with 10uF photo flash capacitor)
- Small Size
 - 11.25 * 32.475 * 37.851mm (±0.2)
 - φ6.3X18.5 mm Max- Capacitor
- Low-voltage Operation
 - 2.7 ~ 7 V
- External MCU control available
 - 2 control pin: charge and trigger
- External LED control available
- Charge Status Detectable
 - 1 ready pin

3. TECHNICAL BRIEF

3.8.4 MICOM

This chip is 8-bits micro processor and work for AF(Auto Focus), Shutter and IRIS.

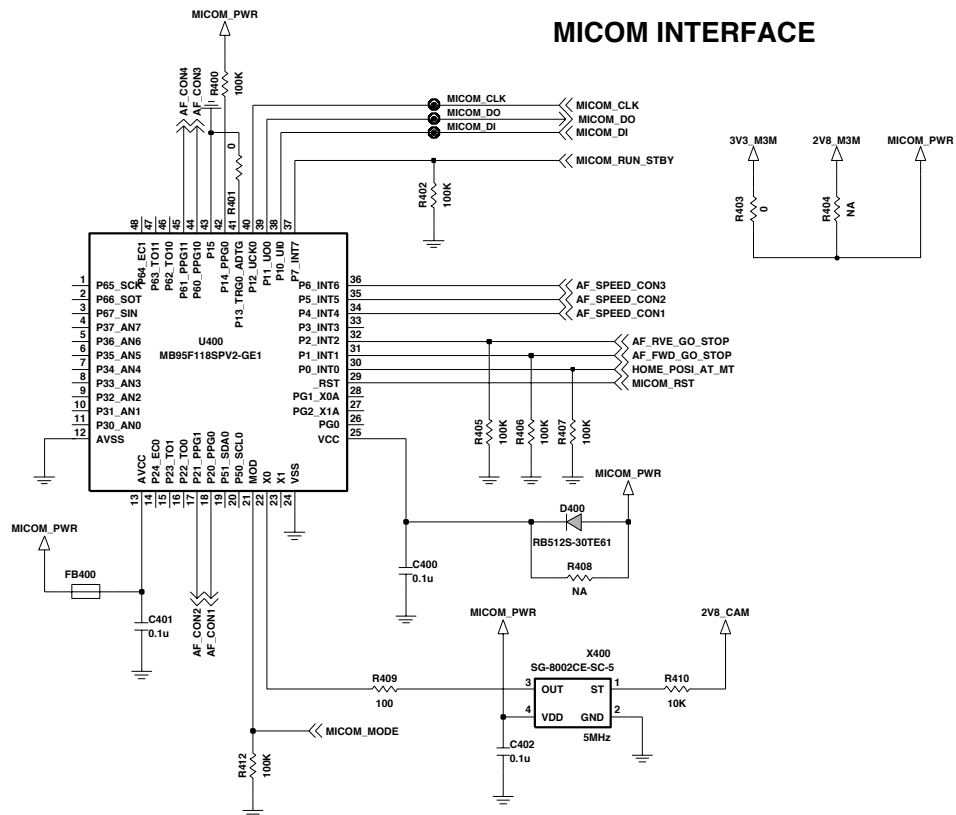


Figure 3-24.

3.8.5 MBGM01(5M CCD ISP)

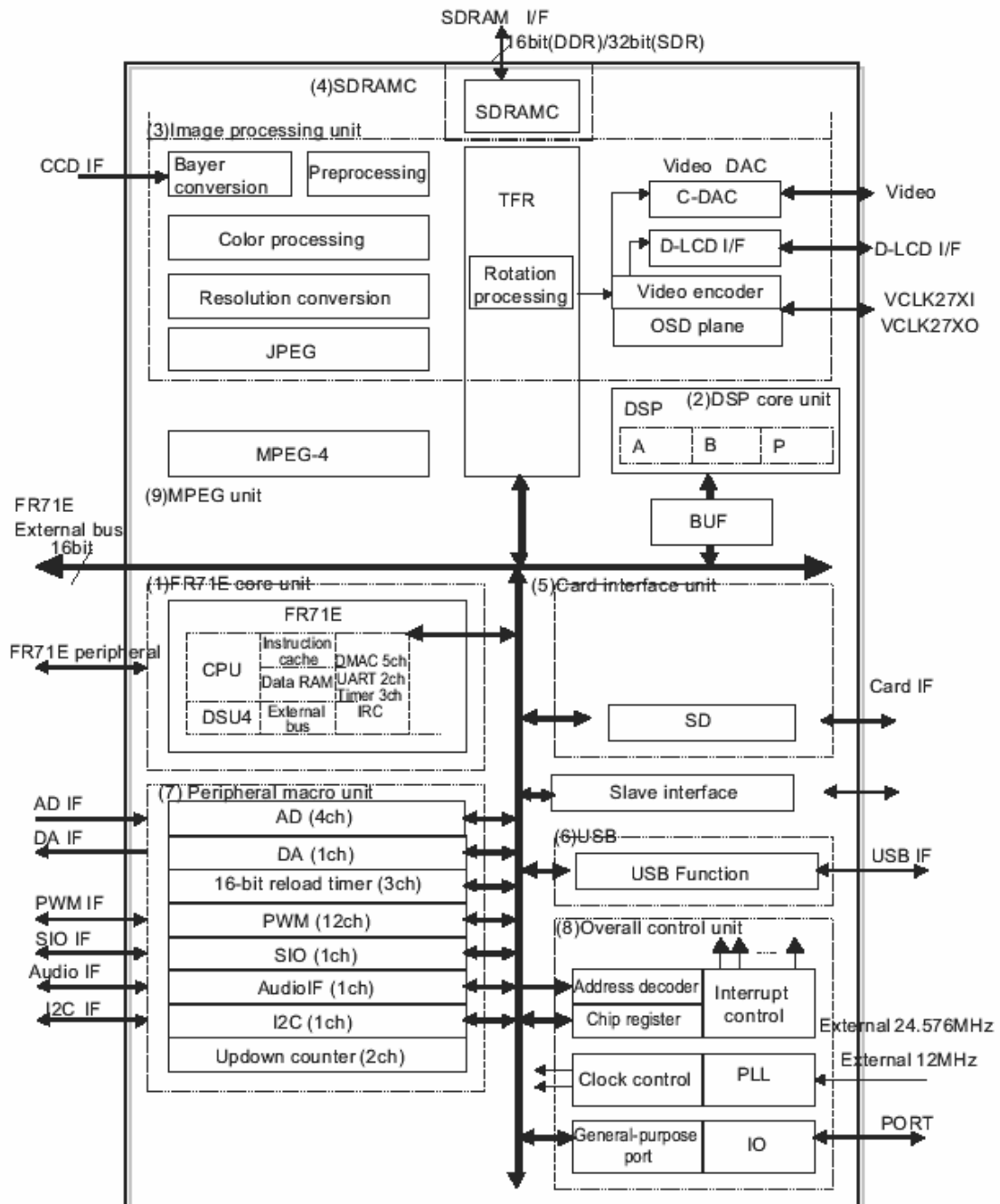


Figure 3-25.

3. TECHNICAL BRIEF

- **FR71E Core**

- Fujitsu FR series 32-bit RISC core for compatible instruction equipped, 5-level pipelines and execution rate of 1 instruction/1 cycle
- 4 KBytes instruction cache and 8 KBytes data RAM equipped
- 24-bit address bus, 16-bit data bus
- Capable of directly accessing the external flash memory, SDRAM and SRAM
- Built-in peripheral functions: DMAC(5 ch), UART(2 ch), 16-bit reload timer(3 ch) and interrupt controller

- **DSP Core**

- Using Fujitsu's original 16-bit fixed-point DSP developed for audio processing
- Data RAM of two-sided structure which allows simultaneous access to both sides, ARAM and BRAM (4kword each)
- Instruction memory comprising RAM(PRAM) of 16kword and can be freely rewritten at resetting
- DMA transfer between the external RAM domain and SDRAM possible
- Multiple-accumulate instruction: 40bits \pm 16bits x 16bits > 40bits... with a guard bit of 8bits

- **Image Processing**

- CCD supporting RGB primary color bayer array, progressive interlace and 3/4/5/6 field
- Supporting VGA motion CCD by Sony and Matsushita
- Supporting REC656 input
- Supporting CCD of up to 16 million pixels
- Installed with the upgraded version of M3 algorithm
- Shading correction function equipped
- Custom Image Processor (4x matrix, gamma correction) equipped
- JPEG macro equipped (compression extension by JPEG Baseline method; calculation accuracy following ISO/IEC10918-2)

- **SDRAMC**

- Supporting DDR-SDRAM(x16) and SDR-SDRAM(x16/32)
However, when VGA motion is processed, x32 must be used for SDR-SDRAM
- Equipped with 2KByte data cache which can freely perform mapping in SDRAM area
- The DDR-SDRAM interface of this LSI uses the interface format of general DDRSDRAM.
- The DDR-SDRAM does not operate in Vtt termination mode (SSTL-II). The interface is without termination.

- **Display Interface**

- Analog composite signal output for video, or YC signal output
- Digital LCD signal output
- REC656 output
- YUV output
- Plane exclusive for OSD which can be defined by VGA (640x480) or QVGA (320x240), and hardware cursor plane available for use

- **Card Interface**

- SD card interface supporting memory mode/IO mode

- **Host PC Interface**

- UART 2-ch (FR71E core built-in peripheral), and PC serial interface of USB macro (function 2.0)
- USB macro (function 2.0) supporting Double Buffer.

- **Peripheral Functions**

- 16-bit reload timer (3ch) independent of FR71E built-in peripherals
- PWM (12ch) which can be controlled by the 16-bit reload timer is equipped. PWM output is 6ch.
- 4ch of general-purpose 10-bit AD (minimum conversion time 1.6 μ s) which can be controlled by the 16-bit reload timer
- 1ch of general-purpose 10-bit DA (minimum conversion time 1 μ s)
- External event timer (Up/Down counter) 2ch
- SIO 1ch
- Audio interface 1ch
- I2C 1ch

- **MPEG4**

- Encoding/decoding of video stream according to MPEG4 Version 1 Simple Profile
- Encoding/decoding of VGA size up to 30fps possible
- Deblocking filter function for decoding equipped

- **Other Functions**

- Supporting the stop mode of operating clock for low power consumption
- 294 signal lines

- **Salve Interface**

- Equipped with interface for connection with the local bus of HOST
- To be used for command issuance and data transfer from HOST to the LSI

3. TECHNICAL BRIEF

3.8.6 MV8620(5M back-end IC + Multi-Media Function)

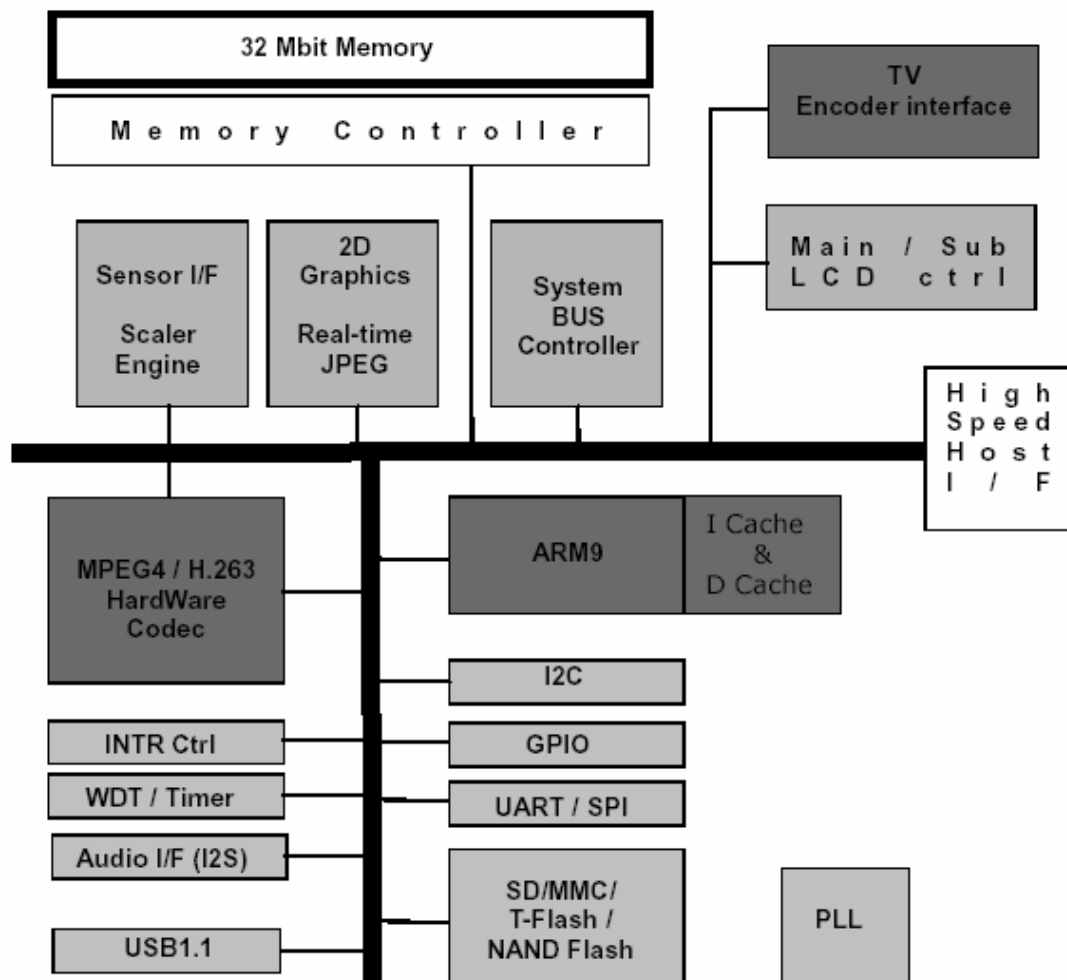


Figure 3-26.

- **Architecture**

multimedia processor for mobile platforms (mobile phones), and general embedded multi-media applications 32-Bit RISC architecture and powerful instruction set with ARM9 CPU core Internal Advanced Micro-controller Bus Architecture (AMBA) (AMBA2.0, AHB/APB)

- **System interface**

Provide USB 1.1 interface with mass storage or communication device Support NandFlash Memory Interface from 64Mbit to 8Gbit with 8bit data bus Can connected with Video DAC(or External TV encoder) for TV_out function

- **Image Sensor Interface**

Internal Advanced Micro-controller Bus Architecture (AMBA) (AMBA2.0, AHB/APB) CMOS/CCD type image sensor interface Image size: QSXGA(5M) to CIF

- **Image Processing**

Image size: QSXGA(5M) to CIF
Color and Gamma Enhancement
Gray / negative / sepia / emboss / sketch
90, 180, 270 degree rotation up to UXGA
Digital Zoom x16
Superimpose
OSD in preview

- **JPEG Codec**

JPEG Encoding YUV4:2:2
JPEG Encoding up to QSXGA
JPEG Decoding (YUV 444/422/420/411) up to QSXGA
Thumbnail

- **MPEG4**

Compatible MPEG-4 Simple Profile Levels 0 to 3 and H.263 Baseline Level 0
Encoding 30 fps of CIF resolution
YCbCr 4:2:0 input image format
Full search motion estimation method with +/- 16 pixel search area,
4 motion vectors per macro block and 1/2 pixels estimation accuracy
DCT and IDCT, compatible with IEEE Std 1180 - 1990
All MPEG-4 error resilience tools
Variable and fixed bit rate control
Decoding 30 fps of CIF resolution
High quality post-processing functionality, including de-blocking/de-ringing
IDCT, compatible with IEEE Std 1180 - 1990

3. TECHNICAL BRIEF

- **3D Accelerator**

Support OpenGL-ES 1.0 Graphics Library by Software Engine

- **Display Management**

2D Graphics Accelerator : BitBLT

OSD (up to 320 x 240)

PIP (picture in picture) function

2LCD Interface (Main, Sub) 8bit, 12bit, 16bit, 18bit

- **TV encoder interface**

CCIR656/601 output to direct connection with TV Encoder or TV DAC

3.9 MIDI IC(YMU787)

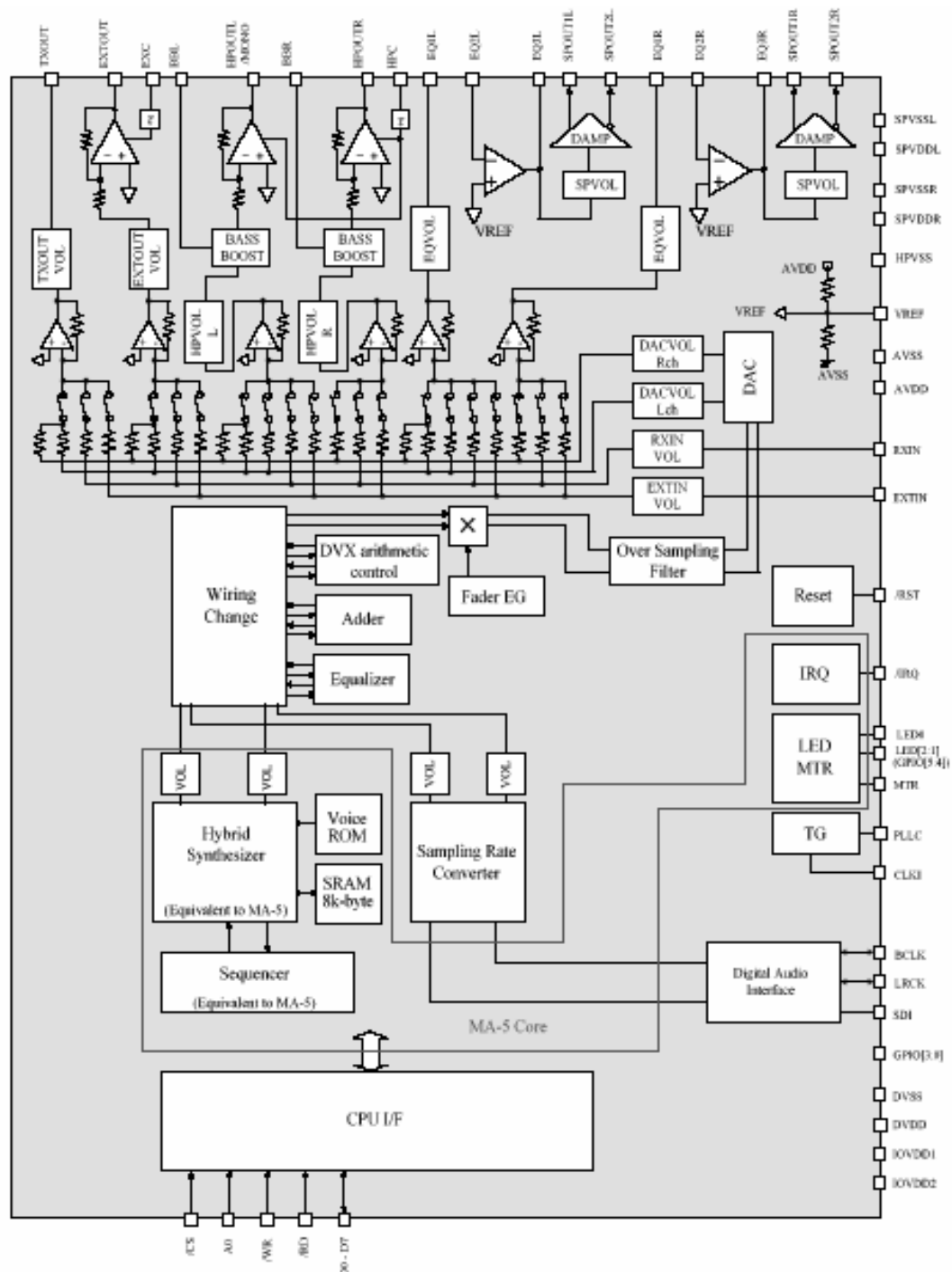
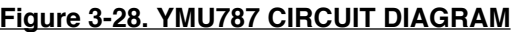


Figure 3-27. YMU787 BLOCKDIAGRAM



CPU interface is an 8-bit parallel.
4 control signal(/WR,/RD,/CS,A0 pin), 8 data bit(D0 to D7), and 1 interrupt pin(/IRQ), totaling 13 pins are connected to the external CPU. This block controls the writing and reading of data by the input polarity of control signal

These registers are able to access directly from the external CPU. There are 2 bytes spaces. The Intermediate register can be accessed through the interface register.

This register is accessed through the Interface register.
It is composed to access a latter control register and ROM/SRAM through Intermediate register. This register is called “Intermediate register” since this exists in the middle of the interface register and the Control register.
In the Intermediate register, there are some registers to control various functions.

CONTROL REGISTER;ROM/SRAM

The Control register and ROM/SRAM are accessed from “Instantaneous write register”, “Delayed write register”, and “Instantaneous read register” in the intermediate register.

In the control register, there is a register to control the following synthesizer mainly.

The voice parameter for FM(GM 128 voices+DRUM 40 voices)and wave data for WT are stored in ROM. SRAM is used at the download of arbitrary FM voice parameter and Wave data for WT.

moreover, it is used as storing buffer at the stream playback of PCM/ADPCM.

FIFO

This is an abbreviation of “First Input First Output” means the memory from which data is read in order of data written.

There are 2 paths to write into FIFO in the Intermediate register. The “instantaneous write path” is for accessing the control register and ROM/SRAM immediately, also “Delayed write path” is for accessing the control register after managing time through the sequencer. FIFO size of Instantaneous path is 64 byte, and its size of Delayed path is 512-byte.

SEQUENCER

This is for interpreting the contents of data which is written into the “Delayed write path” Generally, “Music data” is written into the Delayed write path. It interprets the contents of music data and controls the synthesizer after sequencer, and then plays the music.

Hybrid synthesizer

This device contains a built in polyphonic synthesizer that adopts a stereophonic hybrid system that generate up to 64 tones. FM synthesizer, WT synthesizer, stream playback, HV synthesizer, and AL synthesizer are available.

DIGITAL AUDIO INPUT INTERFACE

This is a three wires type serial interface. The data length is 16bits.

DPLL SECTION/SAMPLING RATE CONVERTER SECTION

Sampling frequencies of signals from the digital audio interface section are changed into 48Khz.

3. TECHNICAL BRIEF

DIGITAL EQUALIZER SECTION

This is a digital equalizer. Voice of signals from the Hybrid Synthesizer section and voice of digital audio signals are adjusted.

DVX ARITHMETIC CONTROL

Two-channel virtual speaker image function that is based on DVX technology makes it possible to create natural stereo sound under the two closely spaced speakers.

OVER SAMPLING FILTER

4 Times of over sampling filter. It converts a signal of sampling frequency 48Khz into a signal of 192Khz, and then send to DAC

GENERAL PARALLEL I/O PORT SECTION(GPIO)

There are six general parallel I/O ports. It is possible to read and write from the Intermediate register.

CLOCK GENERATING BLOCK

This device supports a clock input ranging from 1.5Mhz to 27Mhz.
It is a block to generate a clock which is needed inside of LSI in the PLL.

MIXER SECTION

Selection of an input source(DAC output, RXIN, and EXTIN) against each analog output(SPOUT, HPOUT,EXTOUT,TXOUT) and mixing are performed.

EQ AMPLIFIER SECTION

The change of filter characteristic and gain is possible by adjusting the resistors and external parts.

SPEAKER AMPLIFIER SECTION

The two digital speakers amplifier, which has a maximum output power of 500mW at SPVDDL/R=3.6V and RL=8ohm, is integrated in this device. There is a volume to adjust output level in the first stage of amplifier.

HEADPHONE AMPLIFIER SECTION(HPOUT)

This is an amplifier for stereophonic headphone(RL=16ohm)output.
When it is used as a monaural output, Rch becomes power-down.
In the previous part of it, there are a volume and a bass-boost circuit.

3. TECHNICAL BRIEF

3.10 MEMORY(512Mbits NOR + 128Mbits PSRAM)

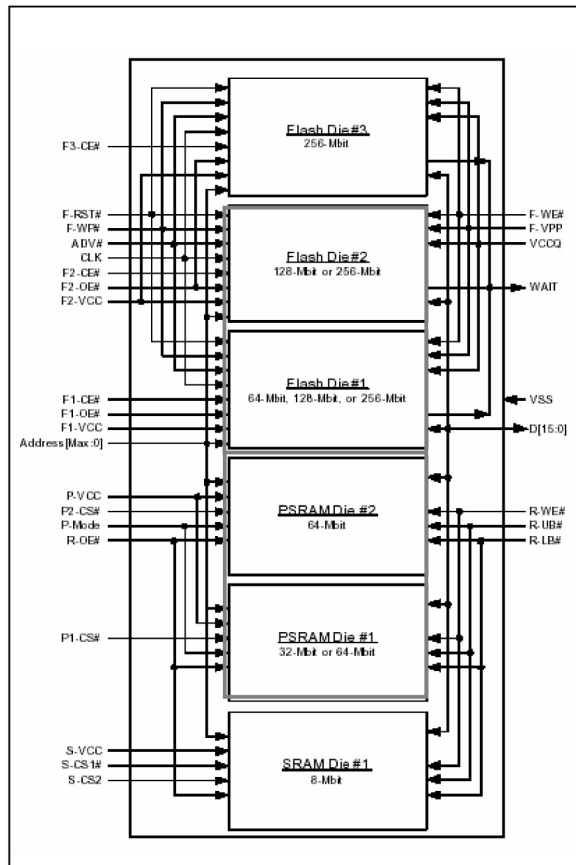


Figure 3-29.

512Mbits FLASH/128Mbits pSRAM

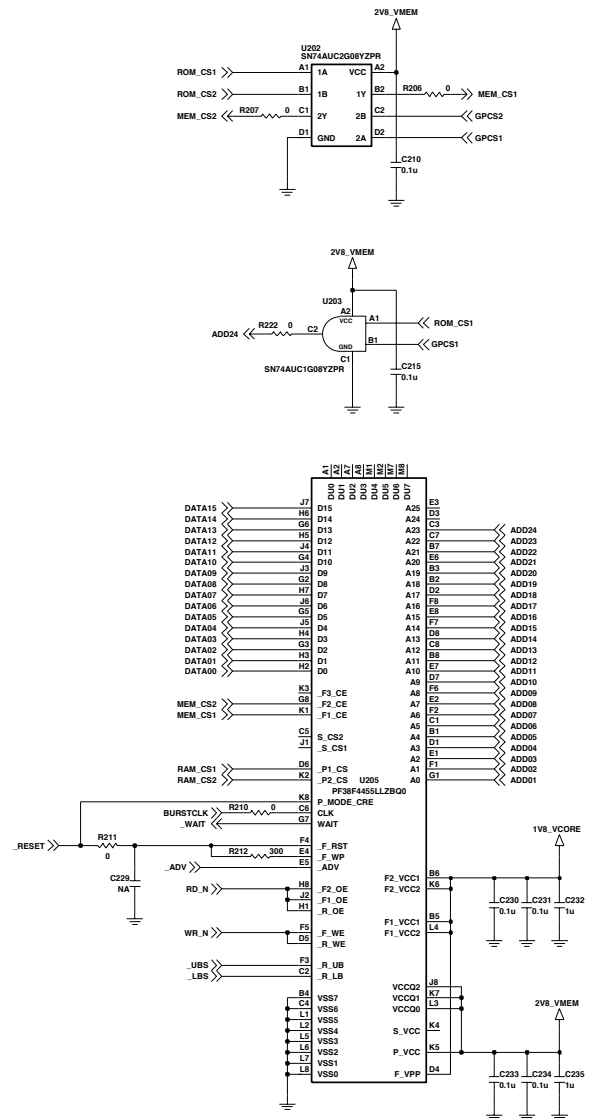


Figure 3-30.

3. TECHNICAL BRIEF

OVERVIEW

The 1.8 Volt Intel StrataFlash® wireless memory with 3-Volt I/O (L30) device provides read-while-write and read-while-erase capability with package-compatible density upgrades through 256-Mbit.

This family of devices provides high performance at low voltage on a 16-bit data bus.

Individually erasable memory blocks are sized for optimum code and data storage.

Each device density contains one parameter partition and several main partitions.

The flash memory array is grouped into multiple 8-Mbit main partitions. By dividing the flash memory into partitions, program or erase operations can take place at the same time as read operations.

Although each partition has write, erase and burst read capabilities, simultaneous operation is limited to write or erase in one partition while other partitions are in read mode. The L30 flash memory device allows burst reads that cross partition boundaries.

User application code is responsible for ensuring that burst reads don't cross into a partition that is programming or erasing.

Upon initial power up or return from reset, the device defaults to asynchronous pagemode read.

Configuring the Read Configuration Register enables synchronous burst-mode reads.

In synchronous burst mode, output data is synchronized with a user-supplied clock signal.

A WAIT signal provides easy CPU-to-flash memory synchronization.

Bus Operations

CE#-low and RST# high enable device read operations. The device internally decodes Upper address inputs to determine the accessed partition. ADV#-low opens the internal address latches.

OE#-low activates the outputs and gates selected data onto the I/O bus.

In asynchronous mode, the address is latched when ADV# goes high or continuously flows through if ADV# is held low. In synchronous mode, the address is latched by the first of either the rising ADV# edge or the next valid CLK edge with ADV# low (WE# and RST# must be VIH; CE# must be VIL).

Read operation

To perform a read operation, RST# and WE# must be desasserted while CE# and OE# are asserted.

CE# is the device-select control. When asserted, it enables the flash memory device.

OE# is the data-output control. When asserted, the addressed flash memory data is driven onto the I/O bus.

Write Operation

To perform a write operation, both CE# and WE# are asserted while RST# and OE# are deserted. All device write operations are asynchronous, with CLK being ignored. During a write operation, address and data are latched on the rising edge of WE # or CE#, whichever occurs first.

Output Disable

When OE# is deserted, device outputs D[15:0] are disabled and placed in a high-Impedance (High-Z) state.

Standby Operation

When CE# is deserted the device is deselected and placed in standby, substantially Reducing power consumption. In standby, the data outputs are placed in High-Z, independent of the level placed on OE#. Standby current, ICCS, is the average current measured over any 5 ms time interval, 5 μ s after CE# is deserted. During standby, average current is measured over the same time interval 5 μ s after CE# is deserted.

When the device is deselected (while CE# is deserted) during a program or erase operation, it continues to consume active power until the program or erase operation is completed.

Reset Operation

As with any automated device, it is important to assert RST# when the system is reset. When the system comes out of reset, the system processor attempts to read from the flash memory if it is the system boot device. If a CPU reset occurs with no flash memory reset, improper CPU initialization may occur because the flash memory may be providing status information rather than array data.

Intel® flash memories allow proper CPU initialization following a system reset through the use of the RST# input. RST# should be controlled by the same low-true reset signal that resets the system CPU. After initial power-up or reset, the device defaults to asynchronous Read Array, and the Status Register is set to 0x80. Asserting RST# de-energizes all internal circuits, and places the output drivers in High-Z. When RST# is asserted, the device shuts down the operation in progress, a process which takes a minimum amount of time to complete.

When RST# has been deserted, the device is reset to asynchronous Read Array state.

3. TECHNICAL BRIEF

3.11 Keypad Switches and Scanning

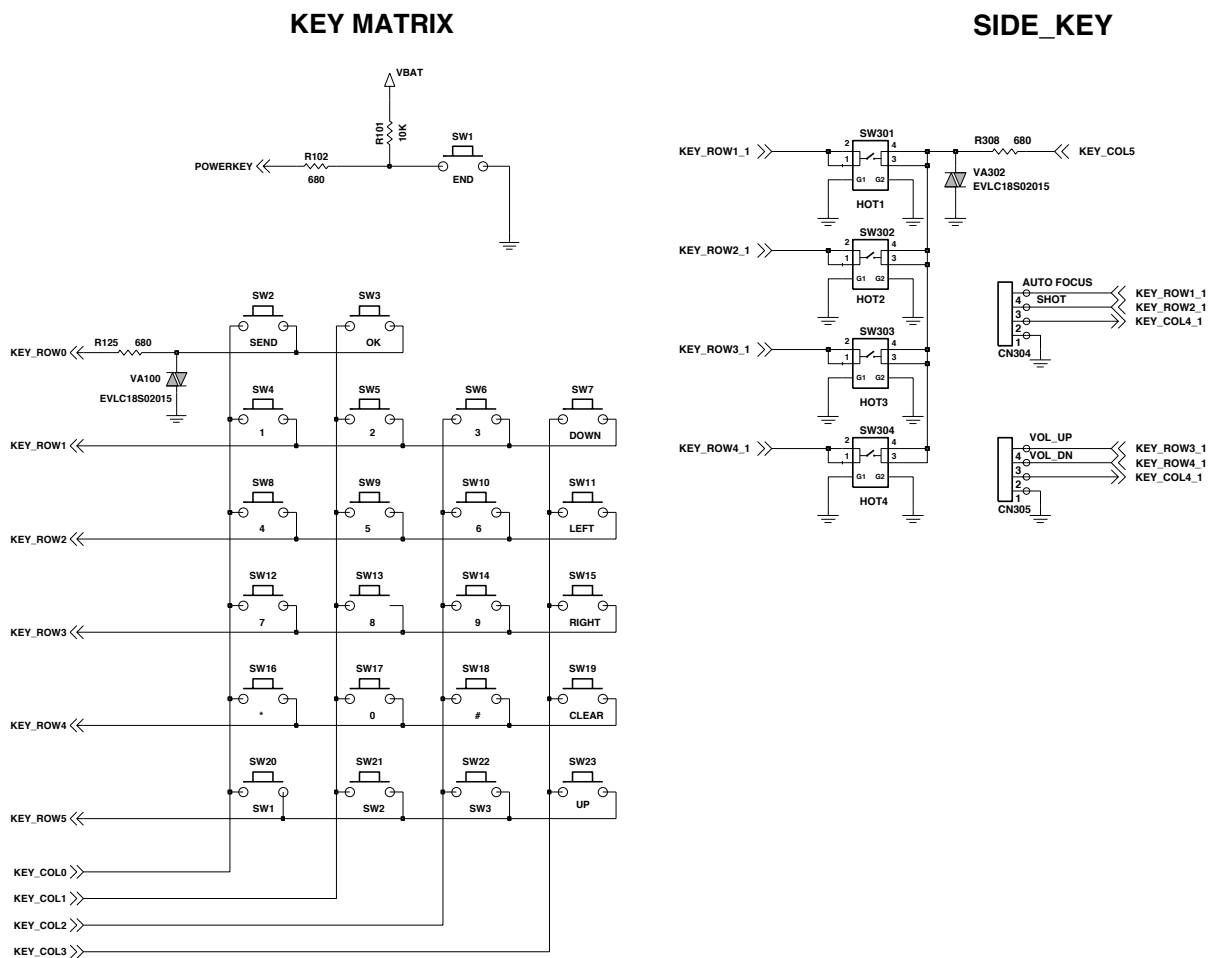


Figure 3-31. Keypad Switches and Scanning

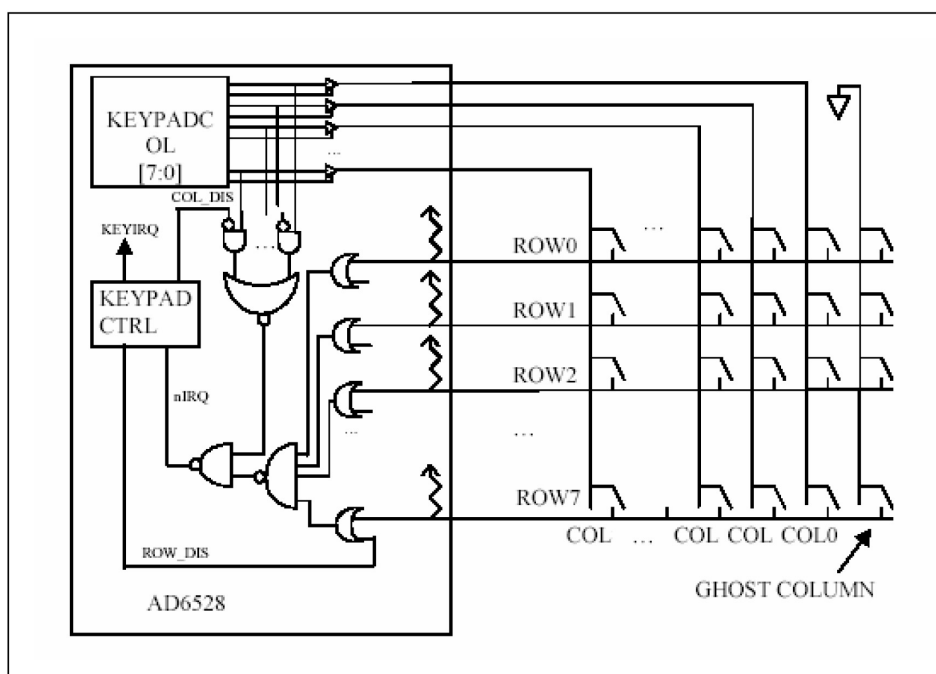


Figure 3-32.

Keypad I/F

The KEYPAD I/F consists of a number of tri-state KEYPADCOL outputs and KEYPAD ROW inputs. It has been expanded to a full 8 by 8 matrix. This gives the possibility of up to 64 keys (with an additional 8 if a ghost column is used). The COL outputs have been combined into a single register to simplify software development. Full flexibility in enabling and disabling rows and columns is also provided. Note that ROW[7:5] are disabled by default. Software needs to write 0s to enable those ROWs.

3. TECHNICAL BRIEF

3.12 Main Microphone

The microphone is placed to be contacted to KEYPAD PCB through FPCB.

The audio signal is passed to AIN1P and AIN1N pins of AD6535. The voltage supply VMIC is output from AD6535, and is a biased voltage for the AIN1P. The AIN1P and AIN1N signals are then A/D converted by the voiceband ADC part of AD6535.

The digitized speech (PCM 8KHz ,16KHz) is then passed to the DSP section of AD6527 for processing (coding, interleaving etc).

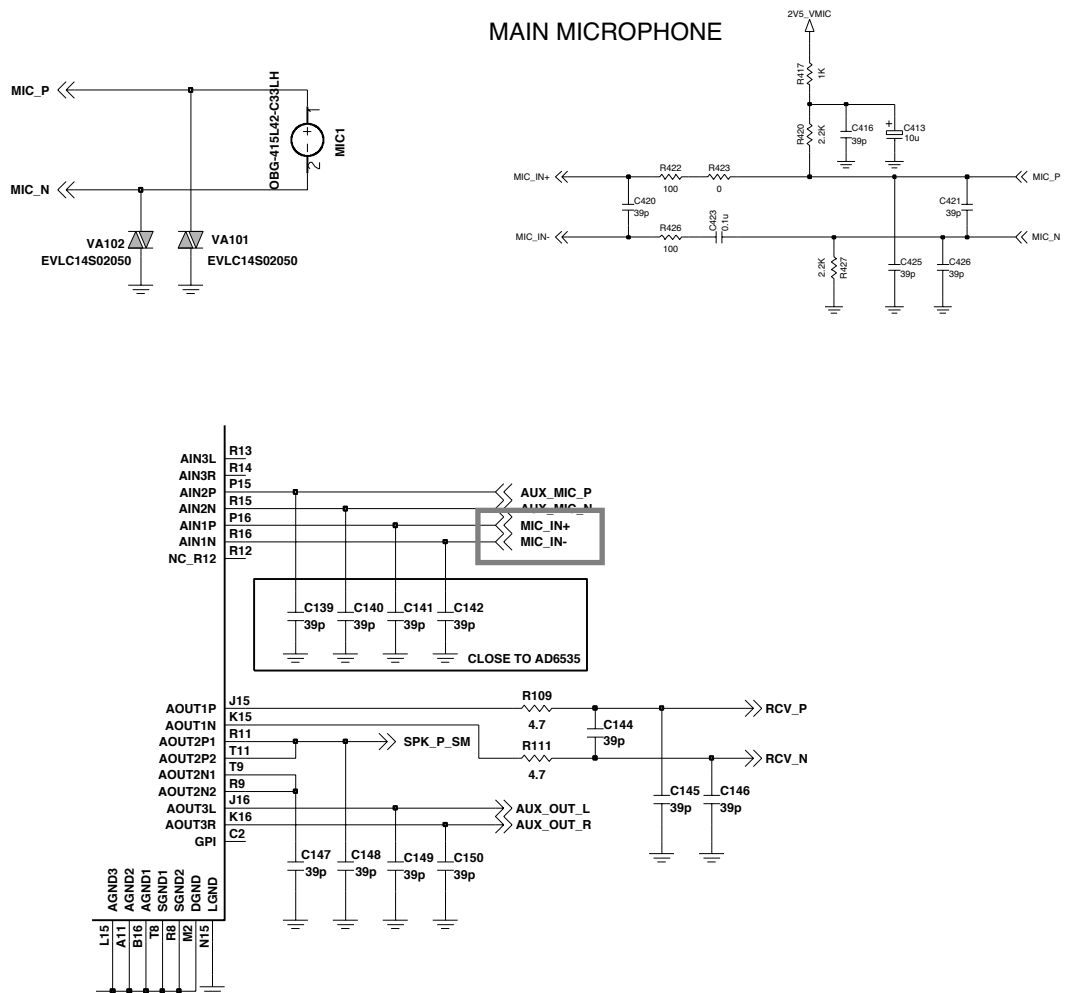
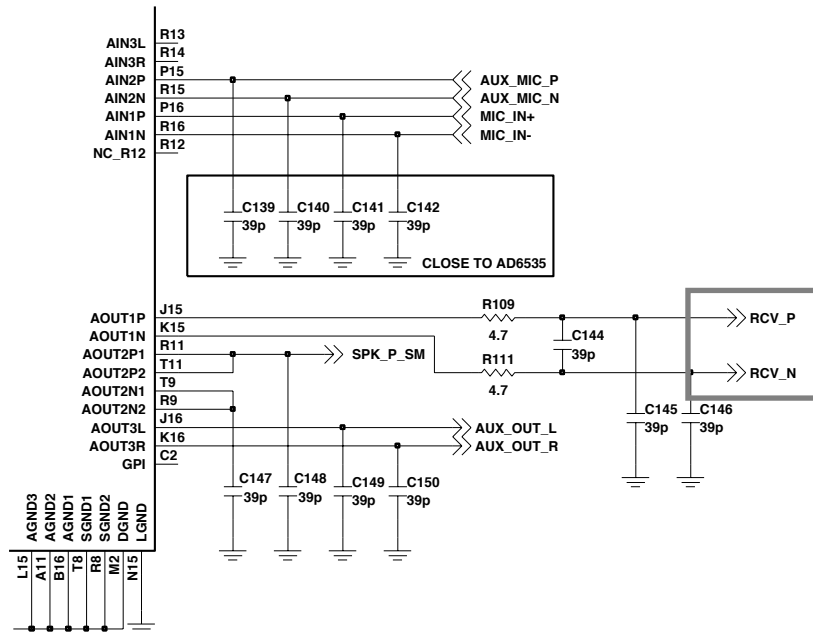


Figure 3-33.

3.13 Main Receiver

The receiver is placed to be contacted to SUB PCB through 80pins B to B Connector. Receiver is connected to AOUT1P/AOUT1N. AOUT1P/N's output impedance is 32ohm.



RECEIVER CONNECTOR

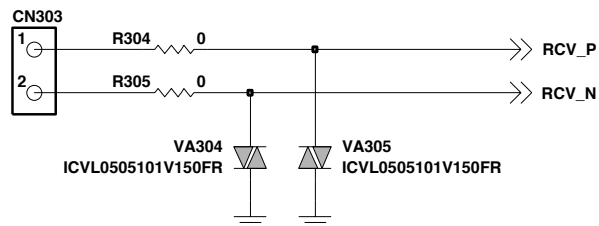


Figure 3-34.

3. TECHNICAL BRIEF

3.14 Headset Interface

Headset connector has 12pins function, Differential Microphone input, Stereo Single-Ended Receiver Output and four function key buttons.

Microphone input is connected to AIN2P/AIN2N and Stereo Output is connected to AOUT3L/AOUT3R.

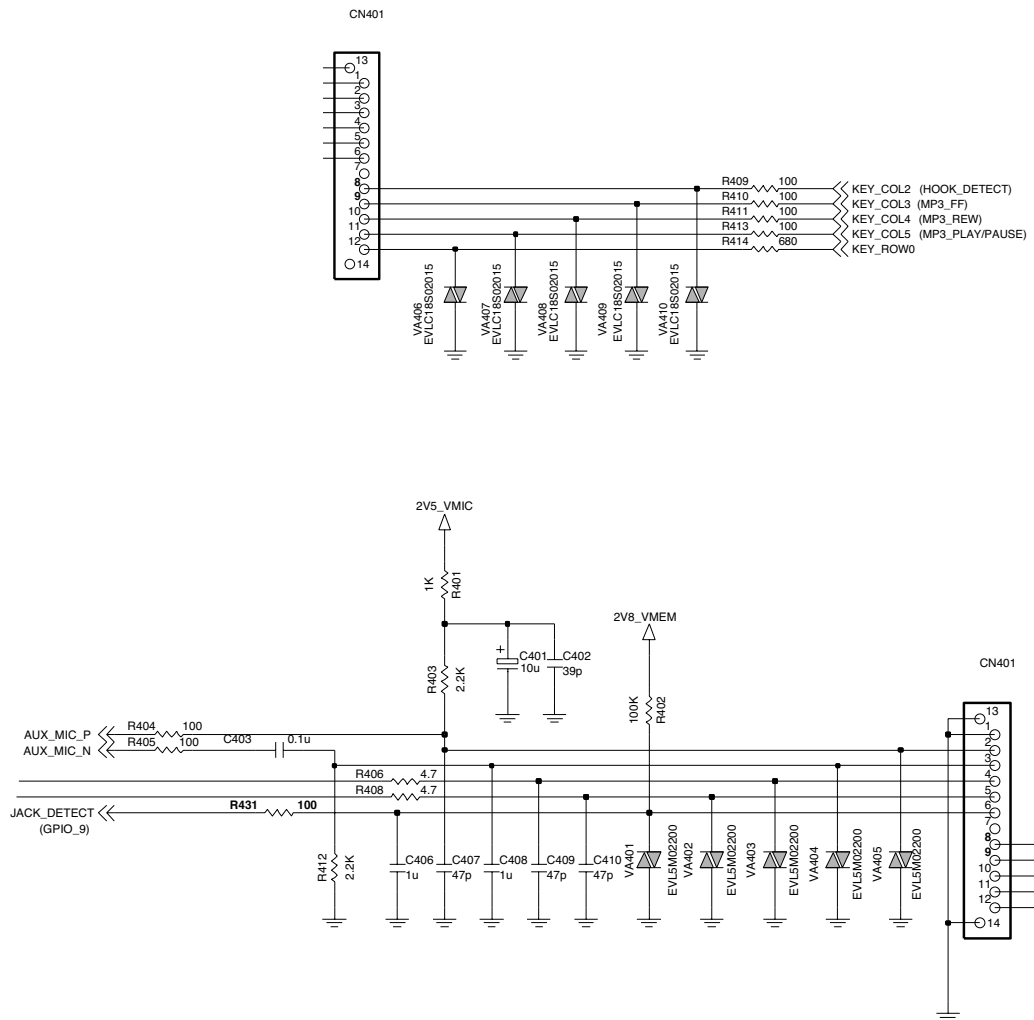


Figure 3-35.

3.15 BLUETOOTH(LBMA-2C67B2)

Bluetooth Module Features

- Output power(Class2) : 1.0 dBm Typ.
- Receiver Sensitivity : -83 dBm Max.
- Dimensions : 6.9 * 7.9 * 1.5 (unit: mm)
- Wide operating temperature range(Target) : -40 to 85C (Storage: -40 to 100C)
- D.C Supply voltage range : 1.8V or 3.0V(Nominal)
- Interfaces : UART and SPI for data and PCM for voice
- Stack layer : HCI or RFCOMM
- Compatibility with Bluetooth Specification 1.2

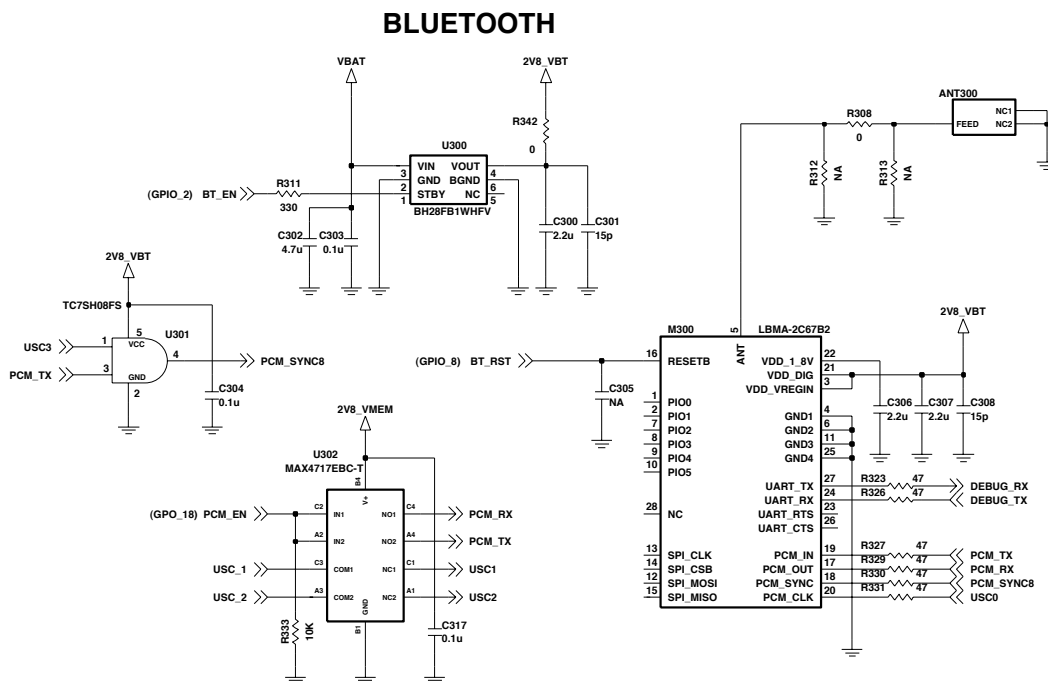


Figure 3-36.

3. TECHNICAL BRIEF

3.16 Mini-SD

Mini SD interface is connected to Main PCB and KEYPAD PCB through FPCB and B to B connector. Mini-SD interface supports 1 bit and 4bits interface. Maximum capacity is 1GByte.

MINI SD CARD INTERFACE

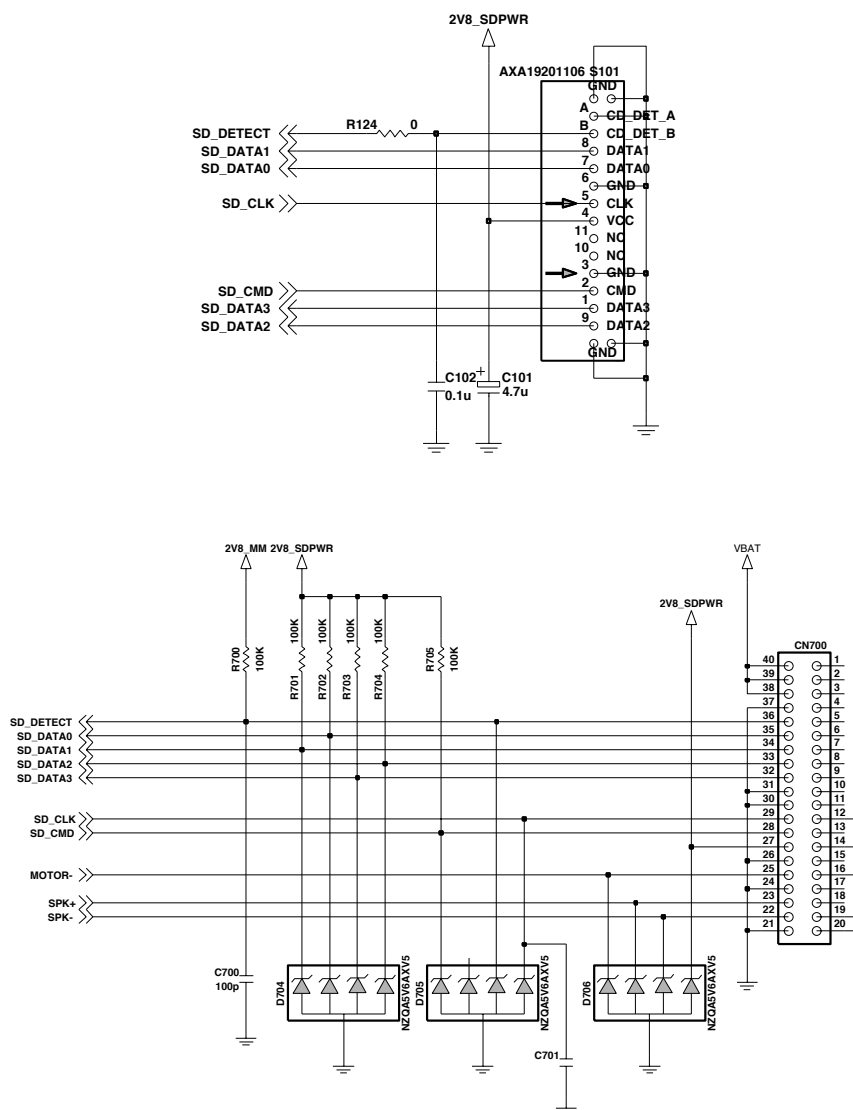
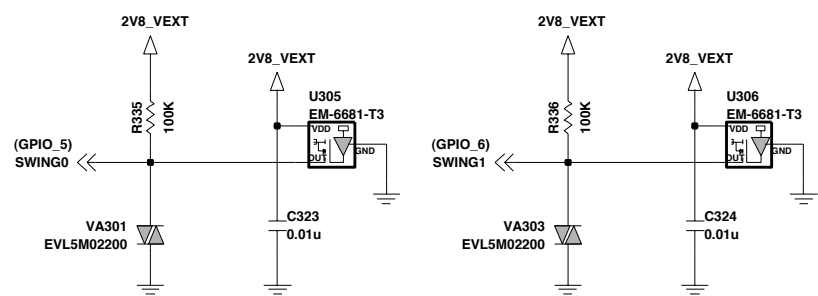


Figure 3-37.

3.17 FLIP SWITCH

Flip switches operate 0 degree and 180 degree only.
Flip switch output is open drain output so needs pull-up resistor.

FLIP SWITCH



	SWING0	SWING1
0	HIGH	LOW
180	LOW	HIGH

Figure 3-38.

3.20 KEY backlight

This phone has 21 backlight units. AD6527 controls backlights by PWM method.

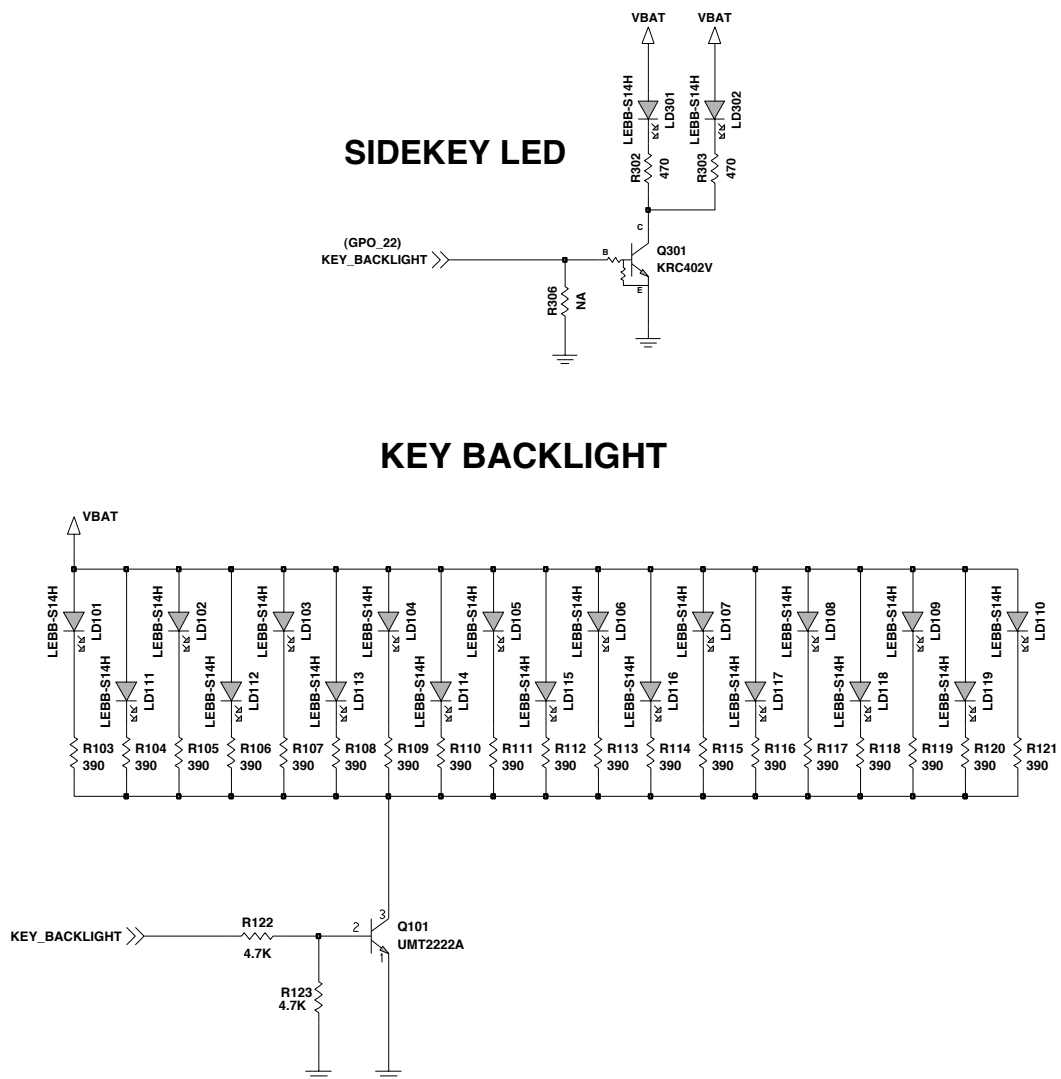


Figure 3-41.

4. TROUBLE SHOOTING

4. TROUBLE SHOOTING

4.1 RF Component

TEST POINT

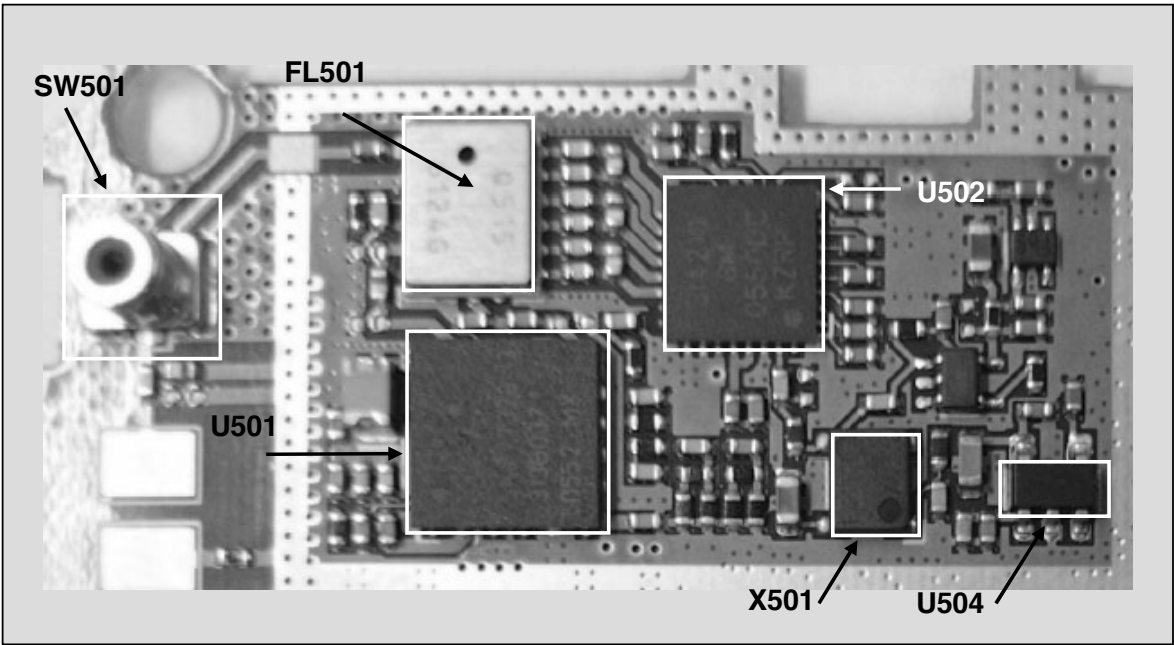


Figure 4-1.

U501	Power Amp Module(SKY77328)
U502	RF Main Chip (SI4210)
U504	2.85V, 26MHz Clock
X501	VCTXO, 26MHz Clock
FL501	FEM
SW501	Mobile Switch

Table 4-1.

4.1.1 RX Trouble

CHECKING FLOW

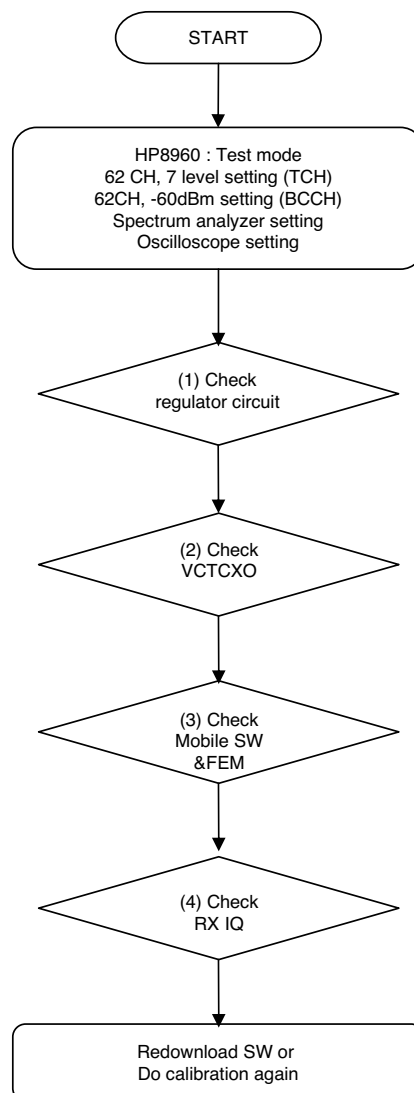


Figure 4-2.

4. TROUBLE SHOOTING

(1) Checking Regulator Circuit

TEST POINT

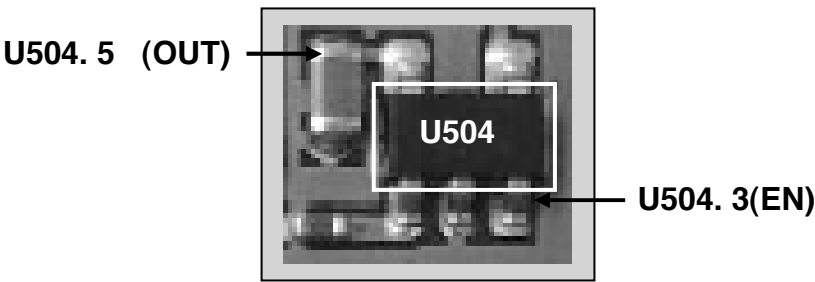


Figure 4-3.

CIRCUIT

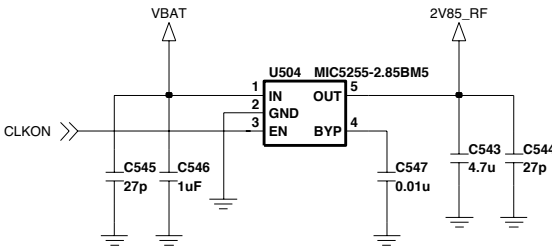


Figure 4-4.

CHECKING FLOW

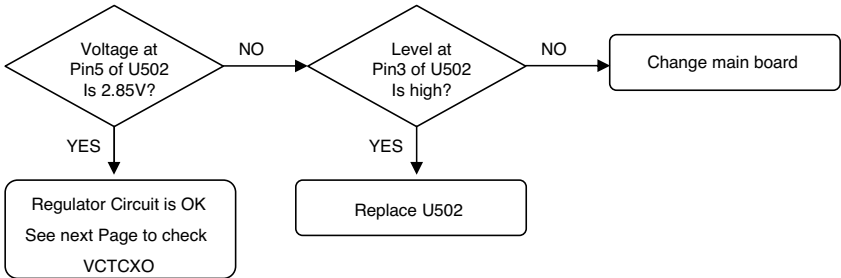


Figure 4-5.

4. TROUBLE SHOOTING

(2) Checking VCTCXO Circuit

TEST POINT

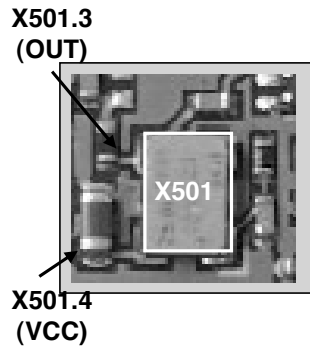


Figure 4-6.

CHECKING FLOW

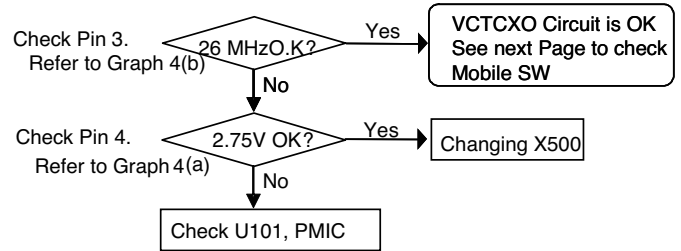


Figure 4-7.

CIRCUIT

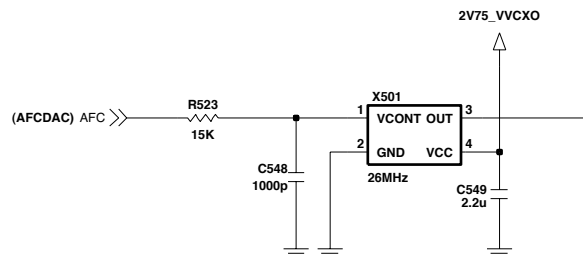
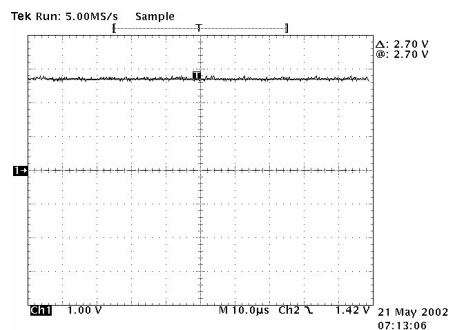
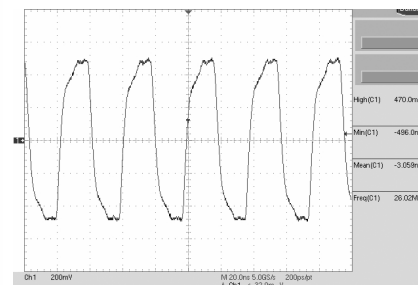


Figure 4-8.

WAVEFORM



Graph 4-1.



Graph 4-2.

TEST POINT



CIRCUIT



WAVEFORM



CHECKING FLOW

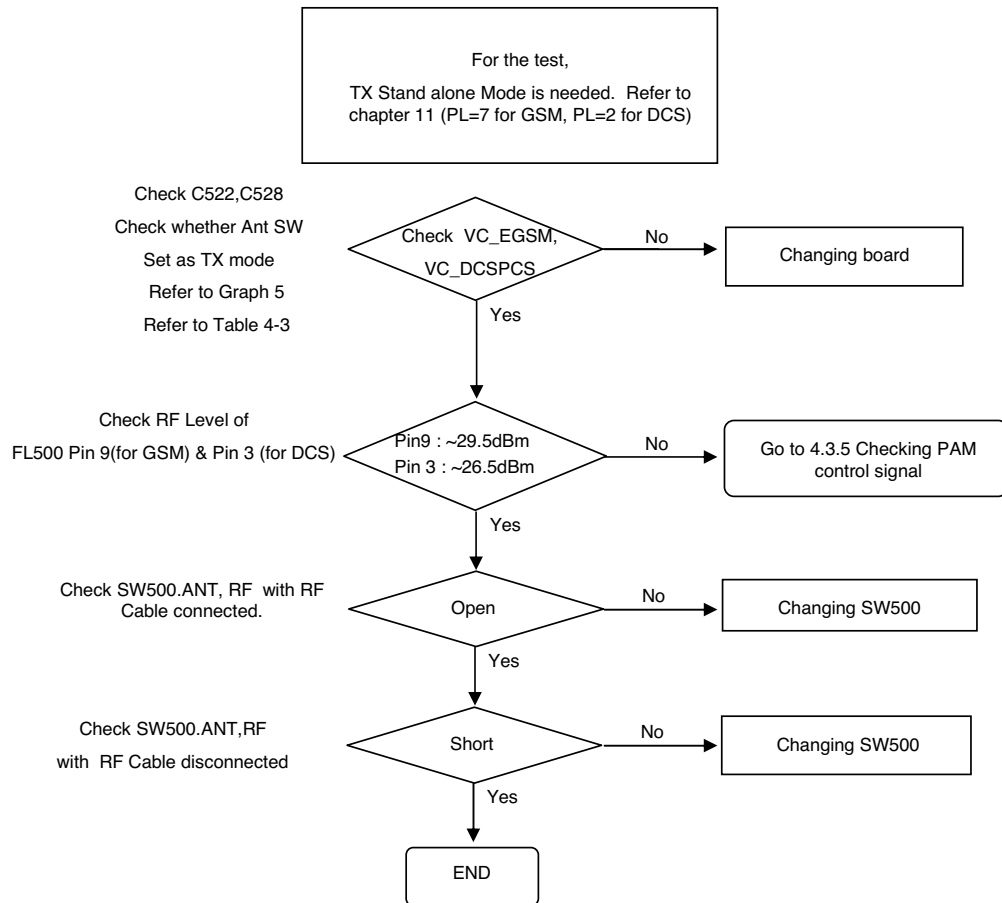


Figure 4-11.

ANT SW	VC_EGSM	VC_CDSPCS
DCS TX	0	1
EGSM TX	1	0
EGSM, DCS RX	0	0

Table 4-2

4. TROUBLE SHOOTING

(4) Checking RX IQ

TEST POINT

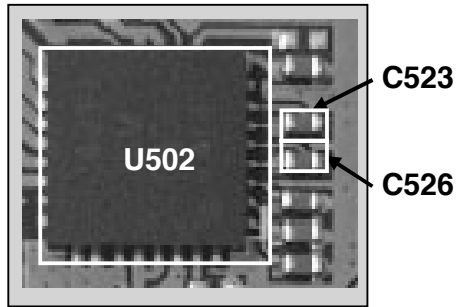
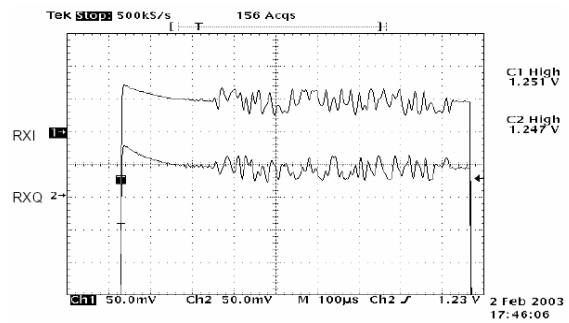


Figure 4-12.

WAVEFORM



Graph 4-5.

CIRCUIT

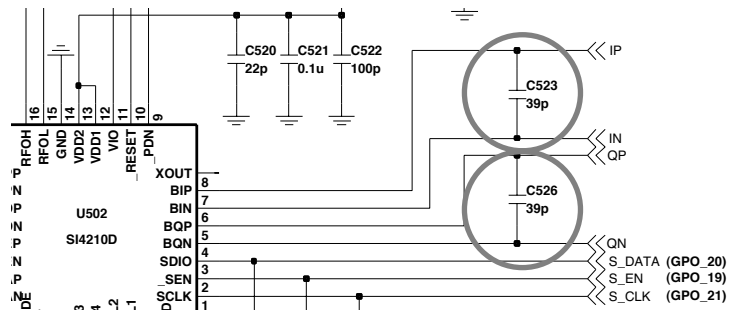


Figure 4-13.

CHECKING FLOW

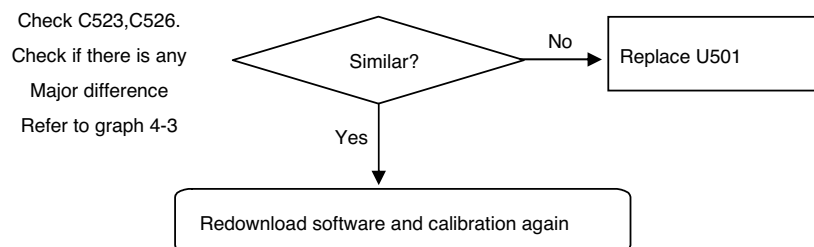


Figure 4-14.

4.1.2 TX Trouble

CHECKING FLOW

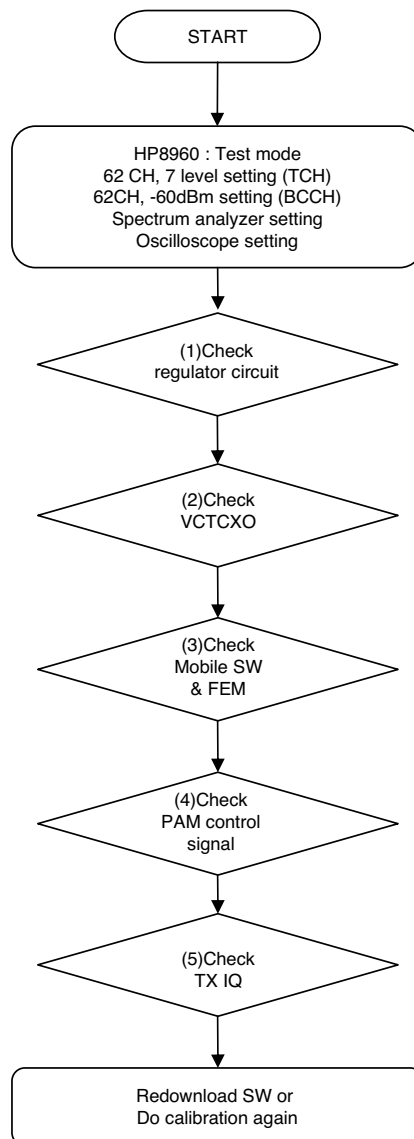


Figure 4-15.

4. TROUBLE SHOOTING

(1) Checking PAM Control Signal

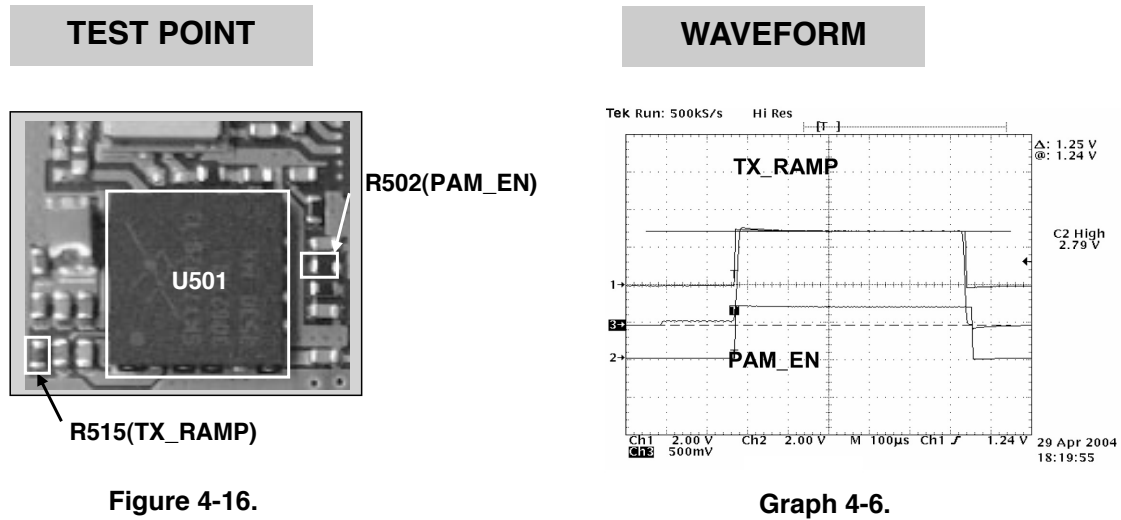


Figure 4-16.

Graph 4-6.

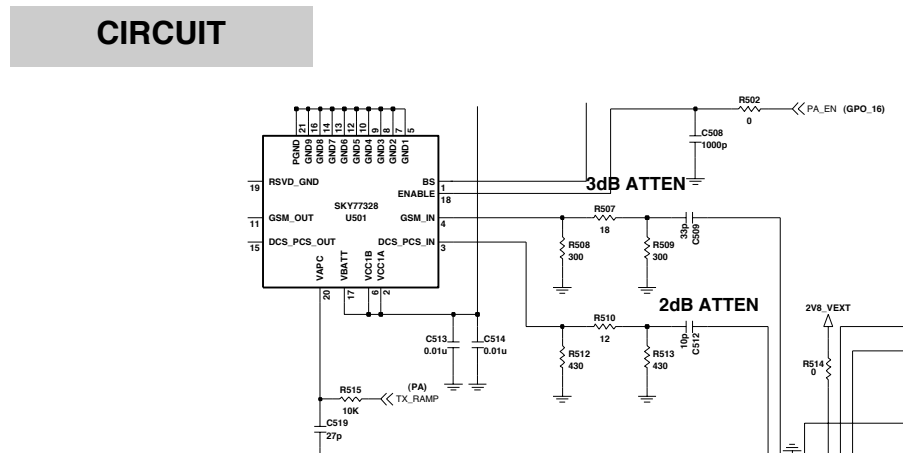


Figure 4-17.

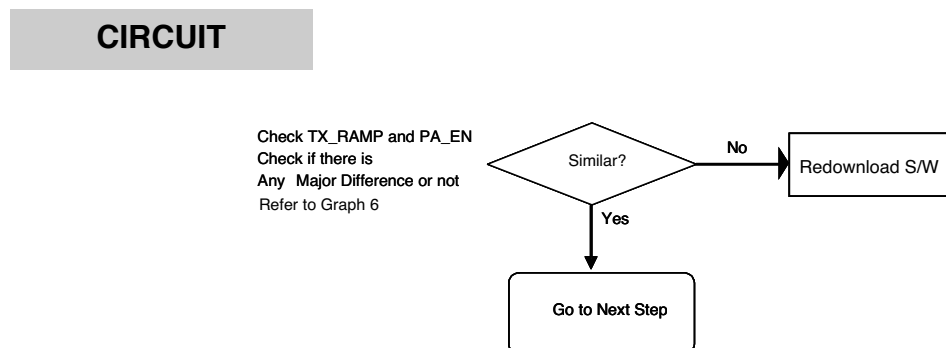
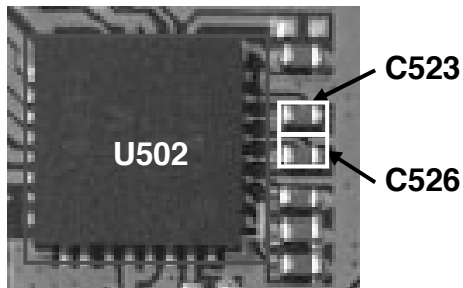


Figure 4-18.

4. TROUBLE SHOOTING

(2) Checking TX IQ

TEST POINT



WAVEFORM

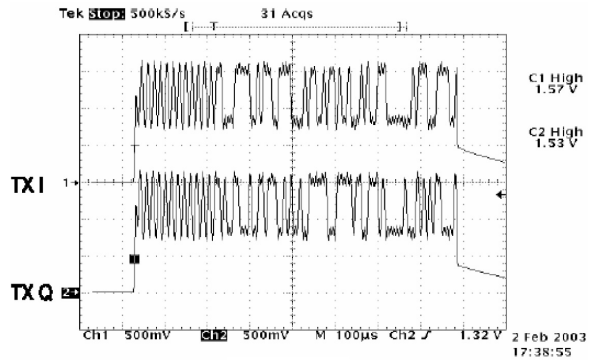


Figure 4-19.

Graph 4-7.

CIRCUIT

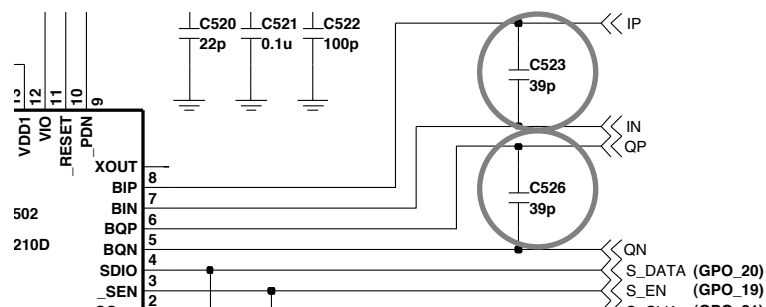


Figure 4-20.

CIRCUIT

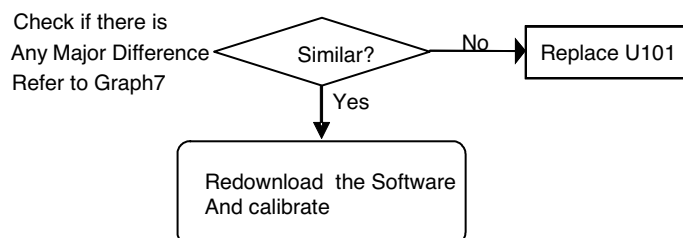


Figure 4-21.

4. TROUBLE SHOOTING

4.2 BT Trouble

TEST POINT

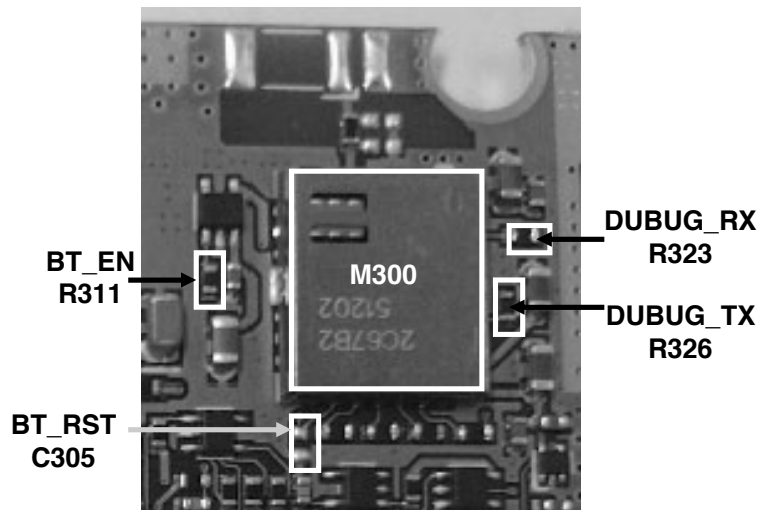


Figure 4-22.

CIRCUIT DIAGRAM

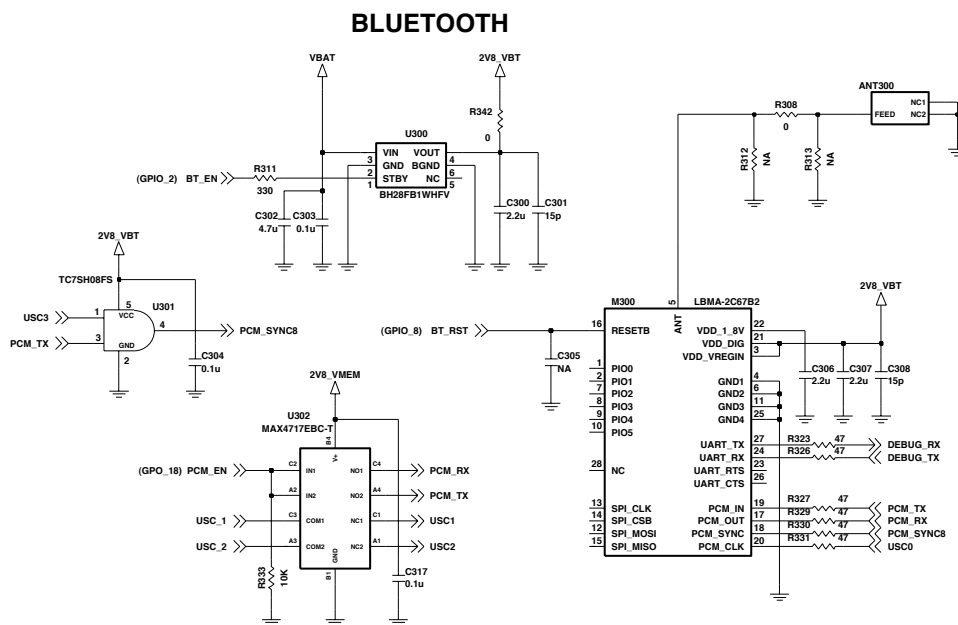


Figure 4-23.

Checking Flow

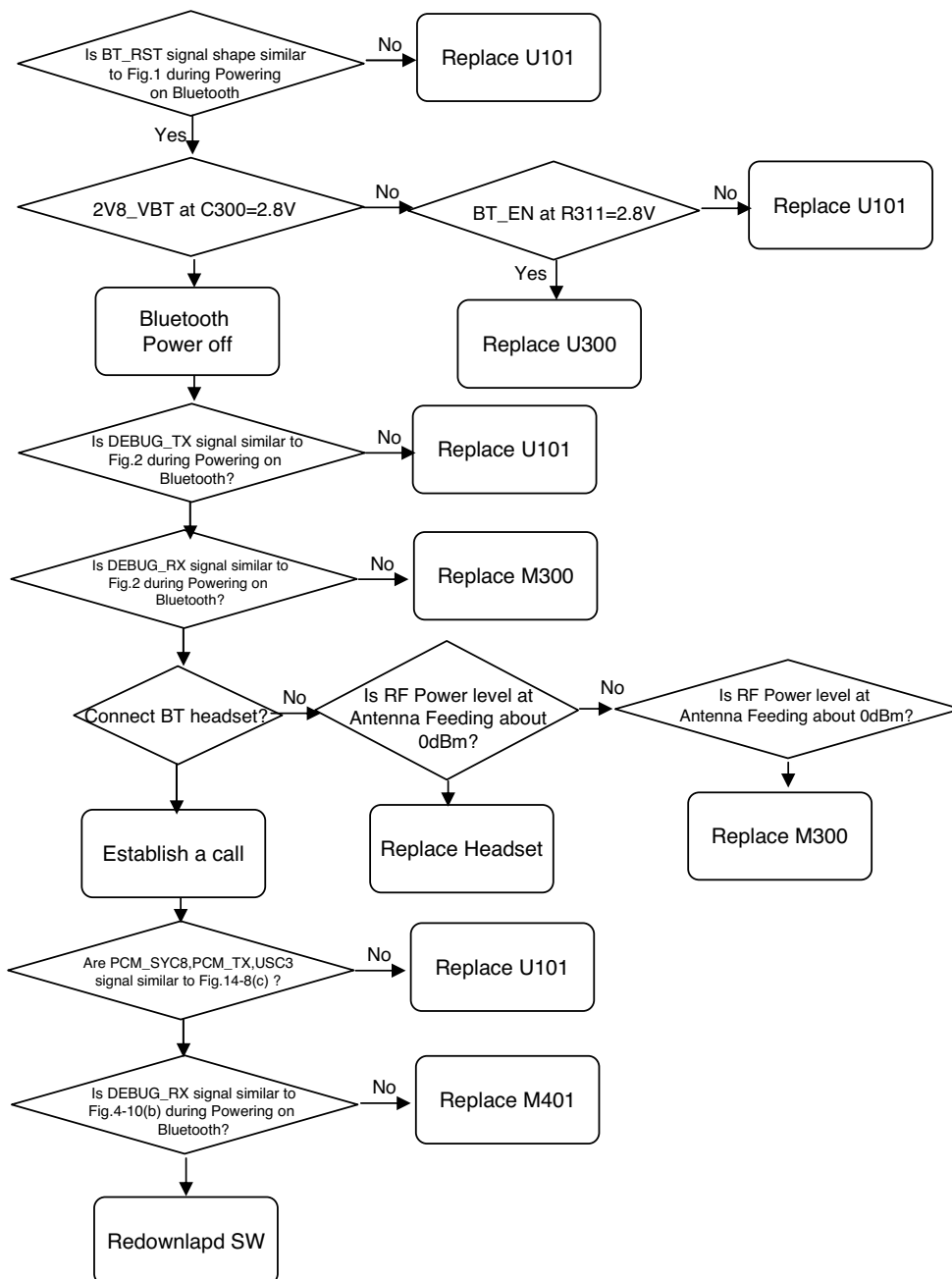
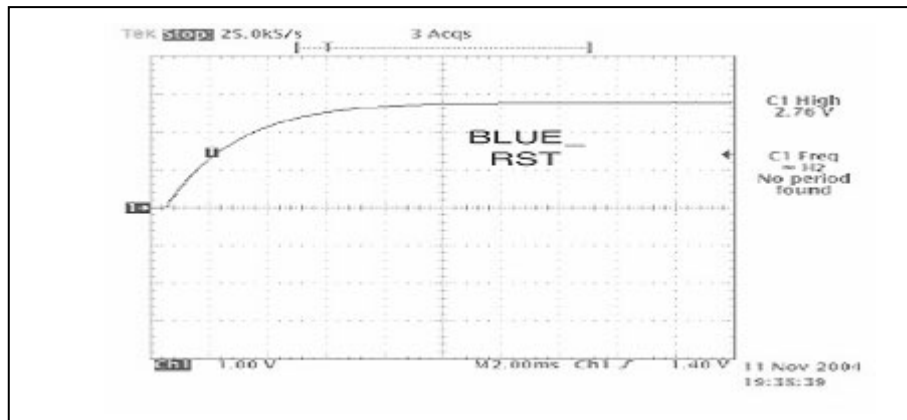
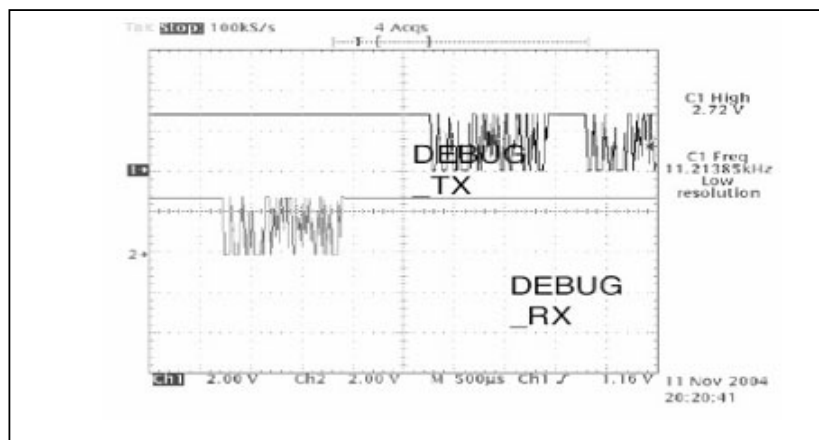


Figure 4-24.

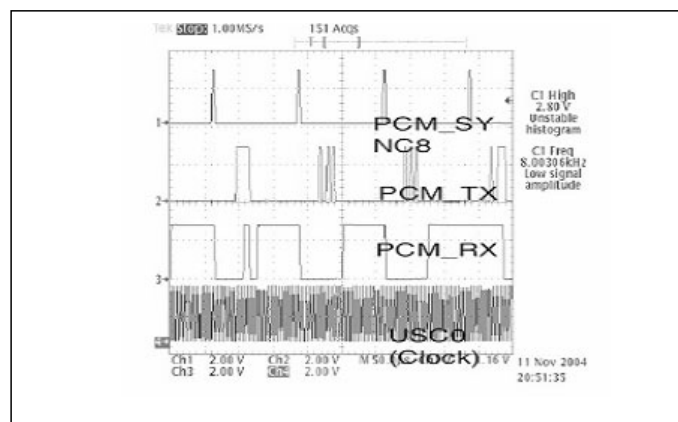
4. TROUBLE SHOOTING



Graph 4-8. BLUE_RST



Graph 4-9. DEBUG_TX,RX



Graph 4-10. PCM_SYNC, TX, RX, USC0

4.3 Power On Trouble

TEST POINT

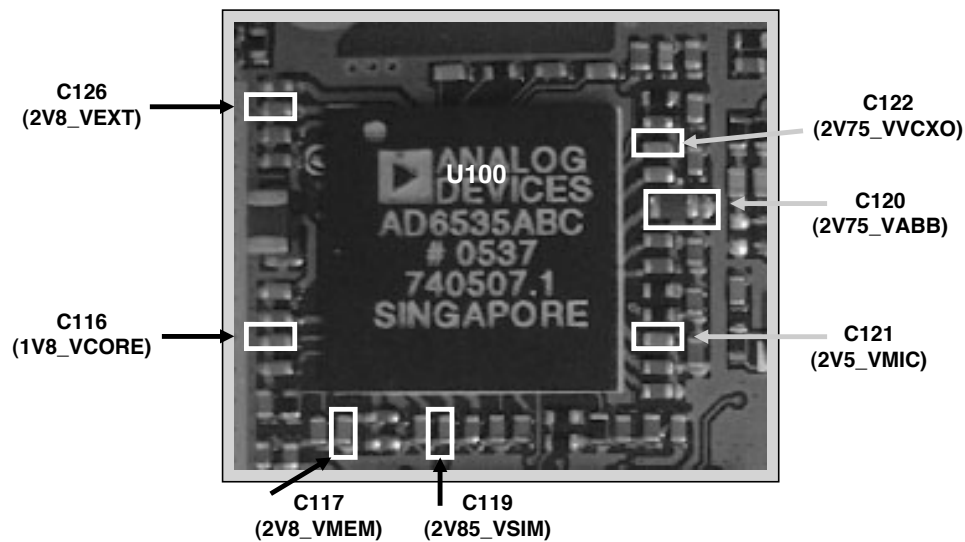


Figure 4-25.

CIRCUIT

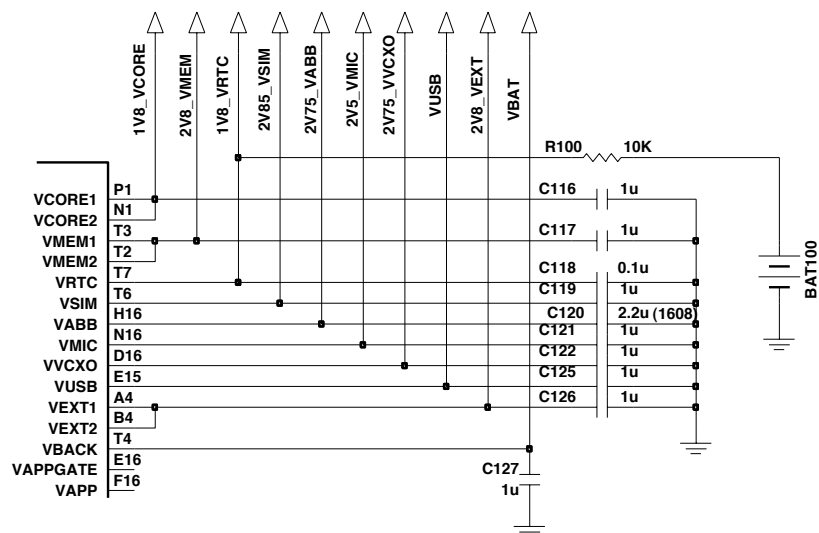


Figure 4-26.

4. TROUBLE SHOOTING

CHECKING FLOW

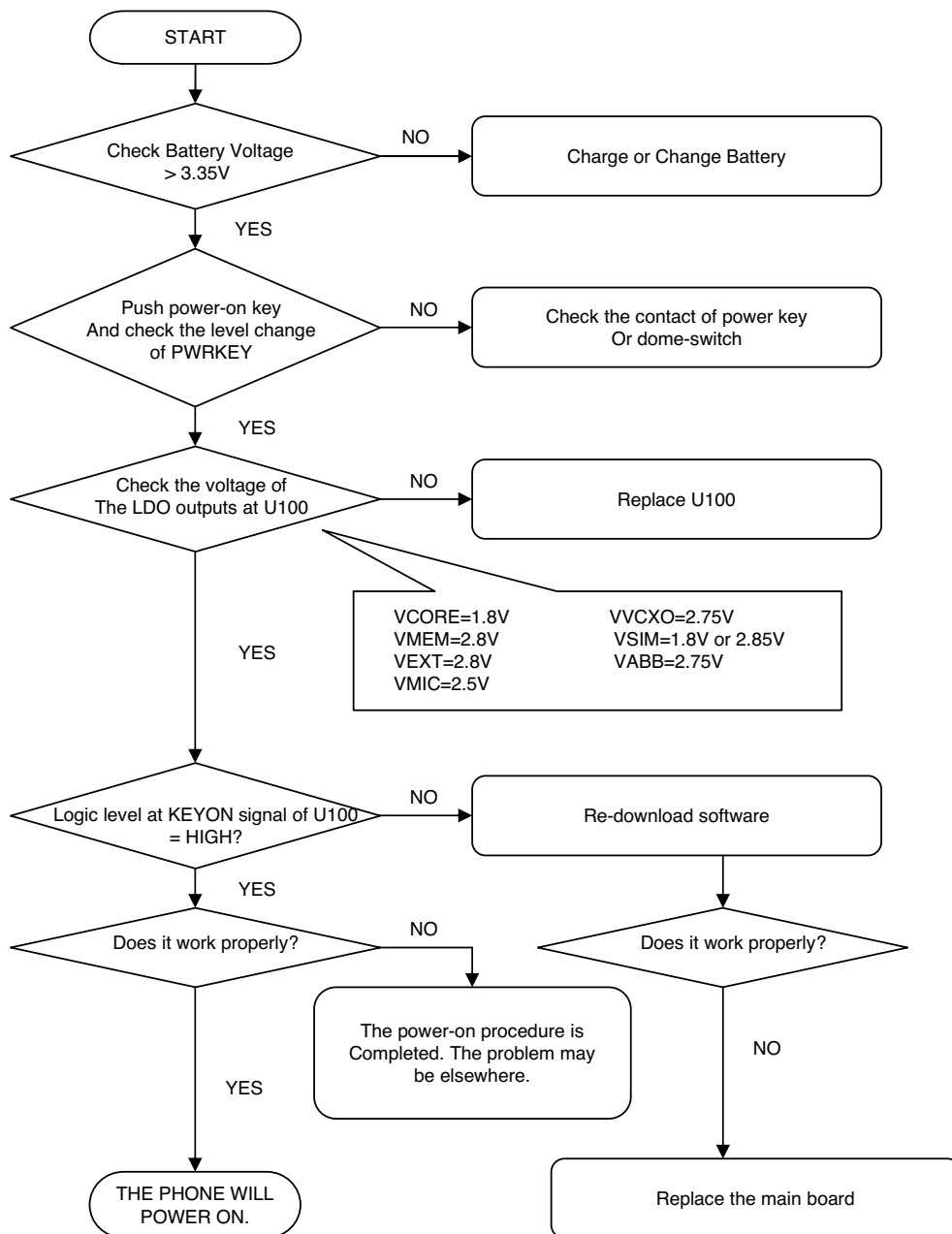


Figure 4-27.

4.4 Charging Trouble

TEST POINT

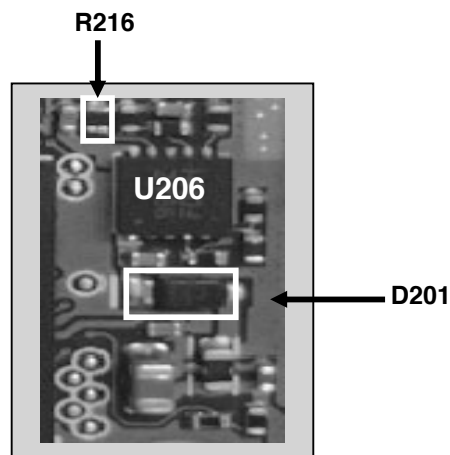


Figure 4-28.

CIRCUIT

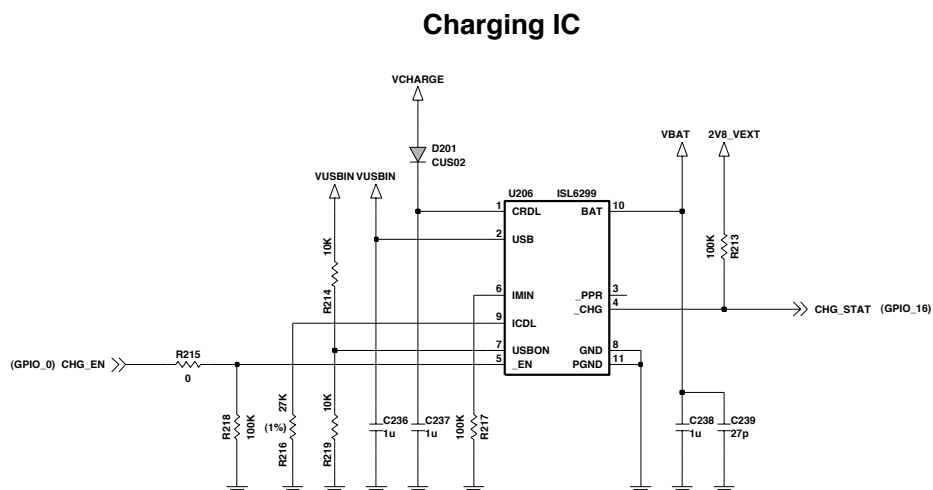


Figure 4-29.

4. TROUBLE SHOOTING

Checking Flow

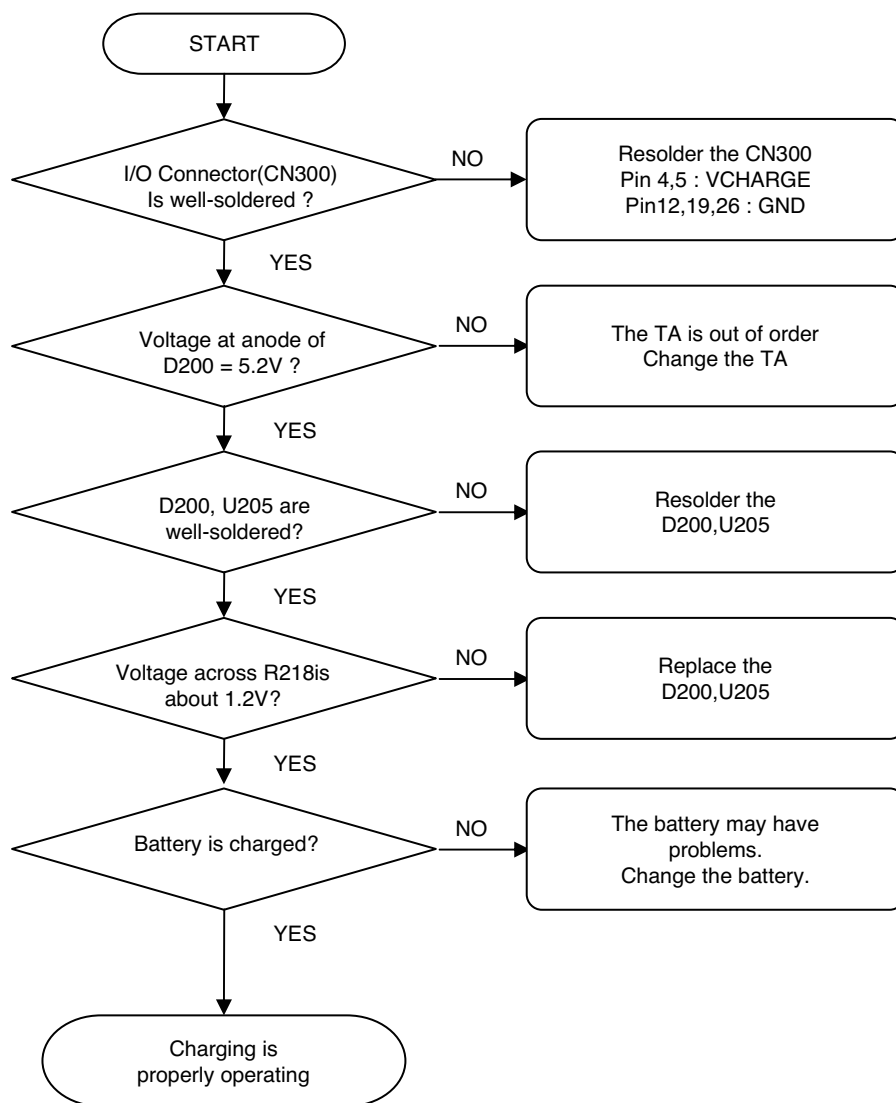


Figure 4-30.

4.5 Vibrator Trouble

TEST POINT

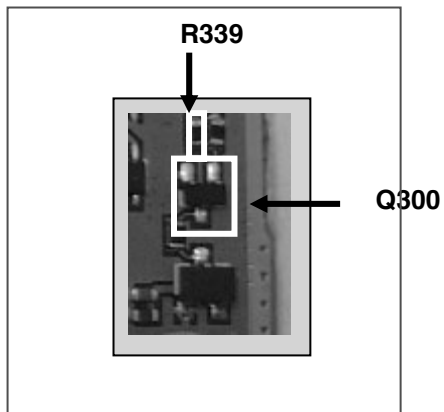


Figure 4-31.

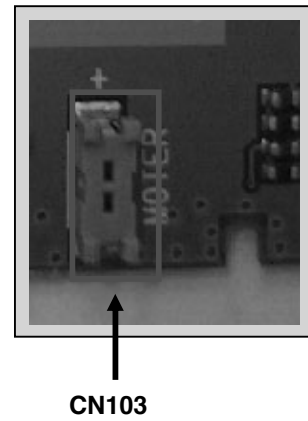


Figure 4-32.

CIRCUIT

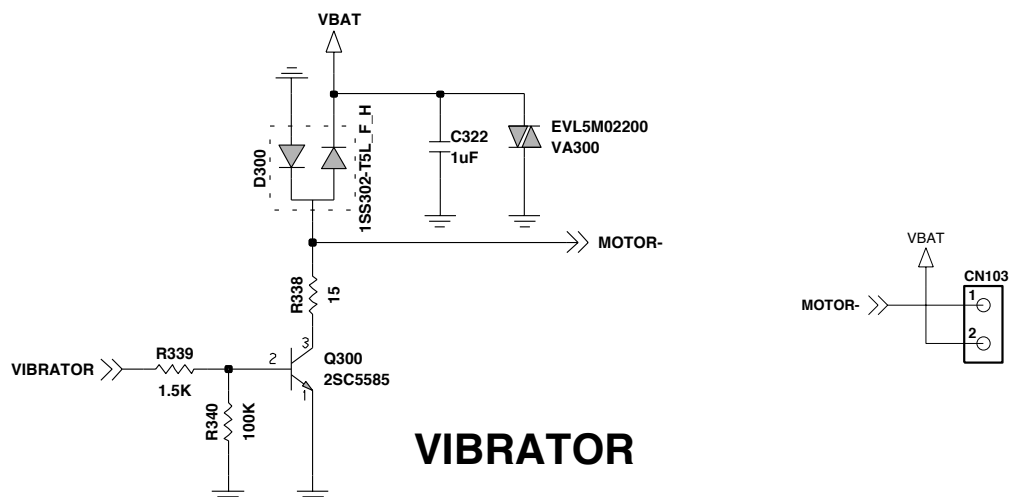


Figure 4-33.

4. TROUBLE SHOOTING

CHECKING FLOW

SETTING : Enter the engineering mode, and set vibrator on at vibration of BB test menu

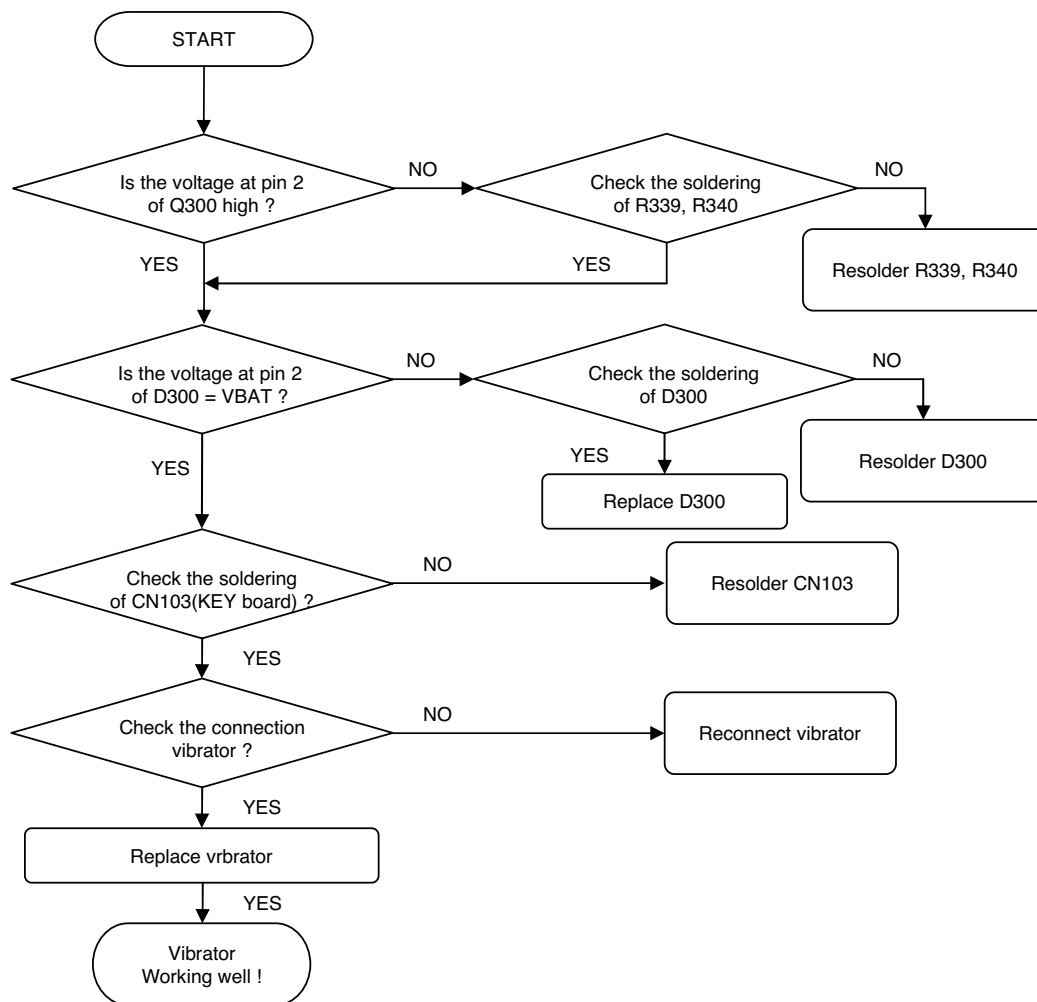


Figure 4-34.

4.6 SIM Card Trouble

TEST POINT

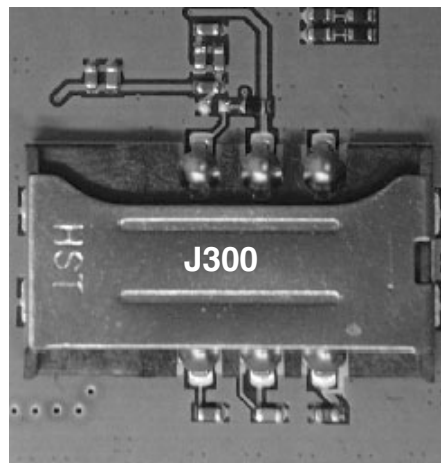


Figure 4-35.

CIRCUIT

SIM CONNECTOR

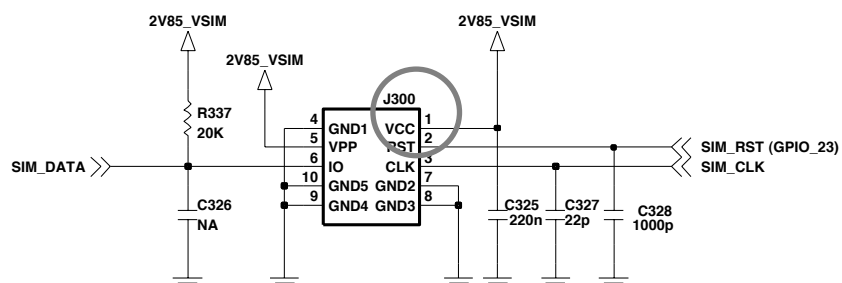


Figure 4-36.

4. TROUBLE SHOOTING

Checking Flow

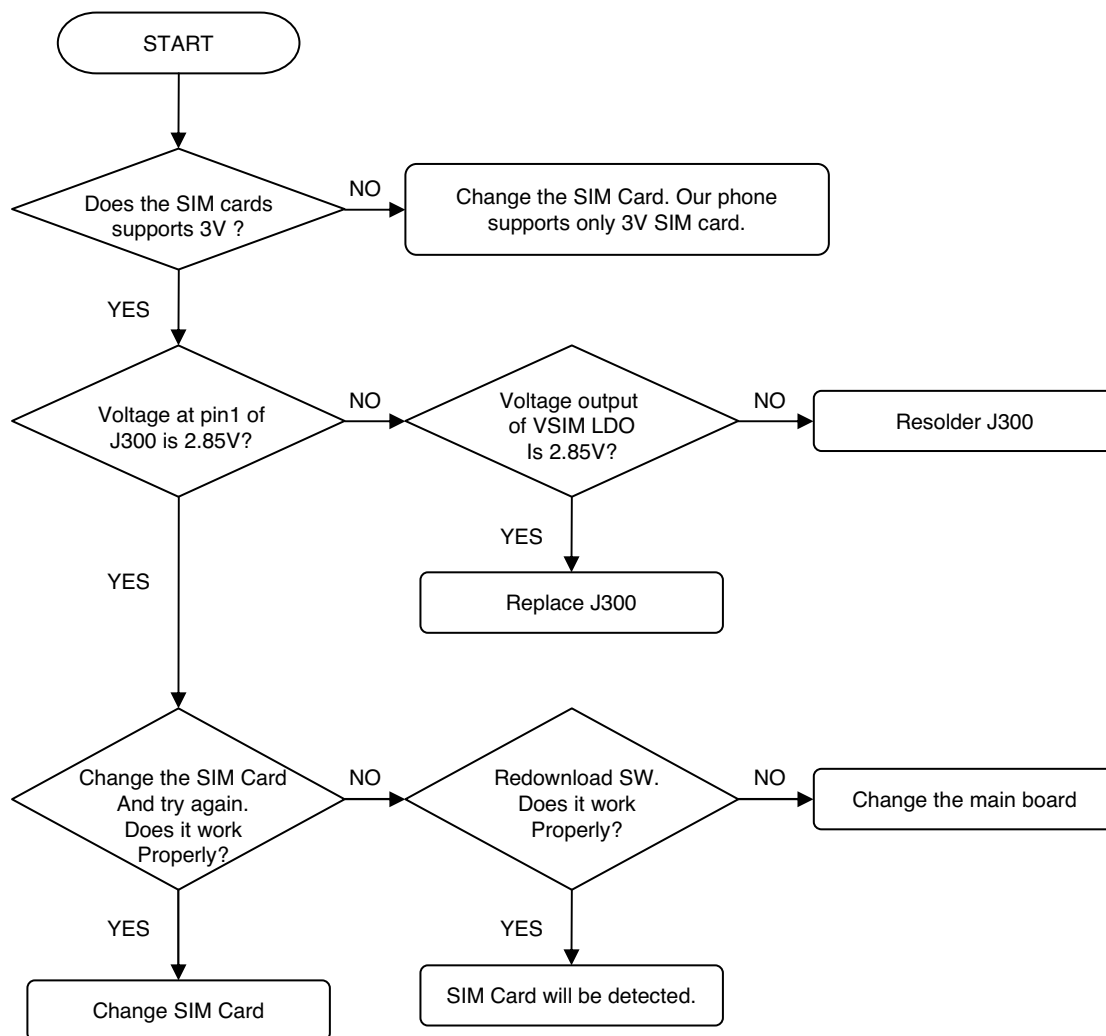
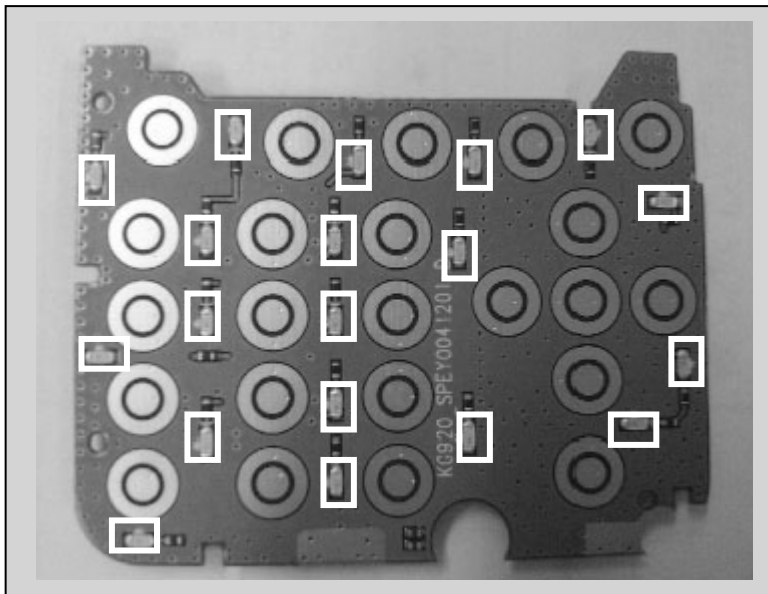


Figure 4-37.

4.7 KEY backlight Trouble

TEST POINT



LD101~LD119

Figure 4-38.

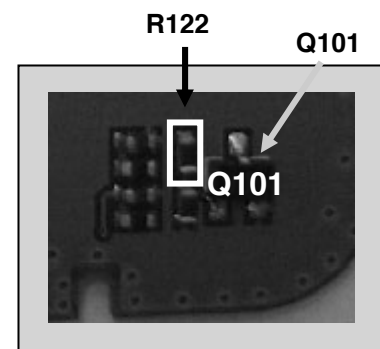


Figure 4-39.

4. TROUBLE SHOOTING

CIRCUIT

KEY BACKLIGHT

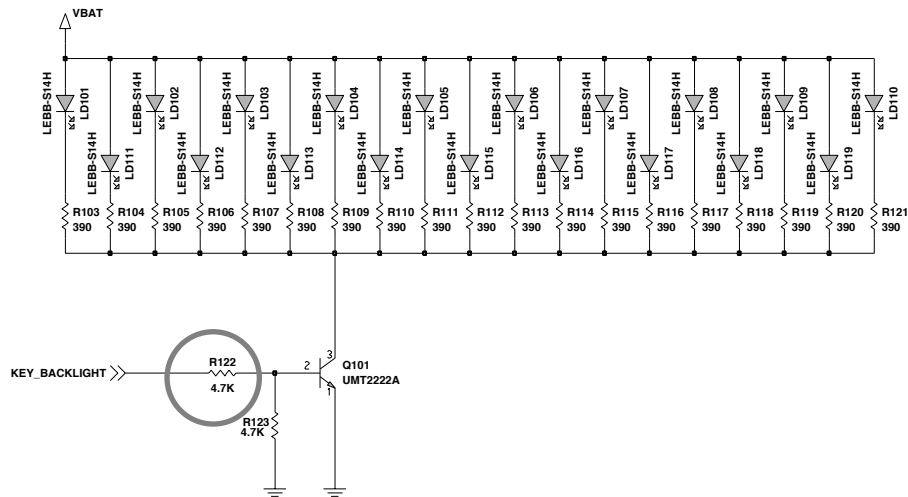


Figure 4-40.

CHECKING FLOW

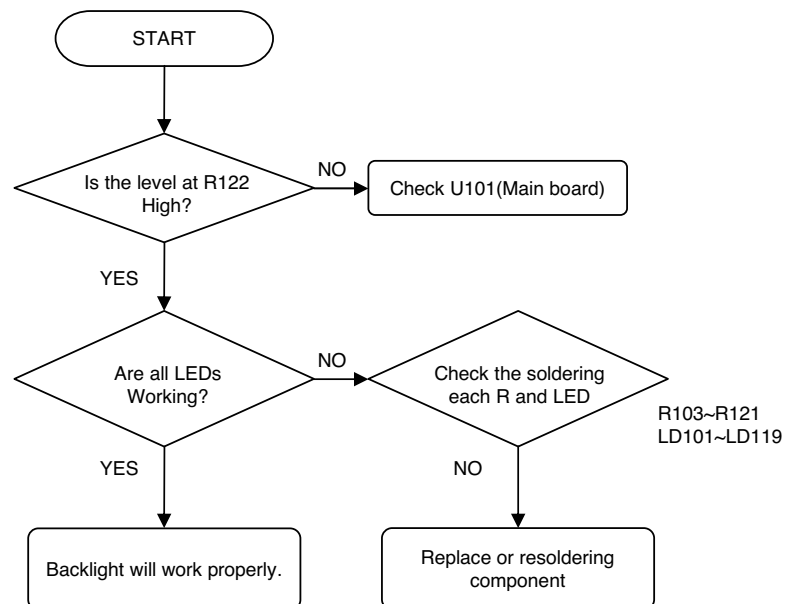


Figure 4-41.

4.8 Side KEY backlight Trouble (SUB board)

TEST POINT

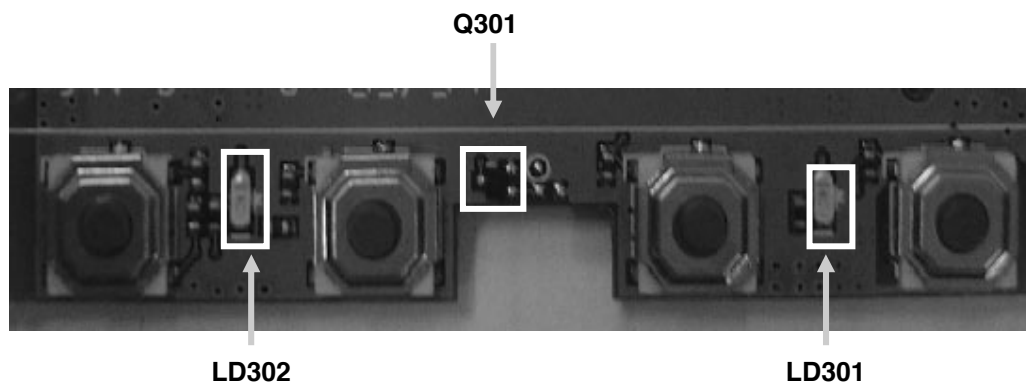


Figure 4-42.

CIRCUIT

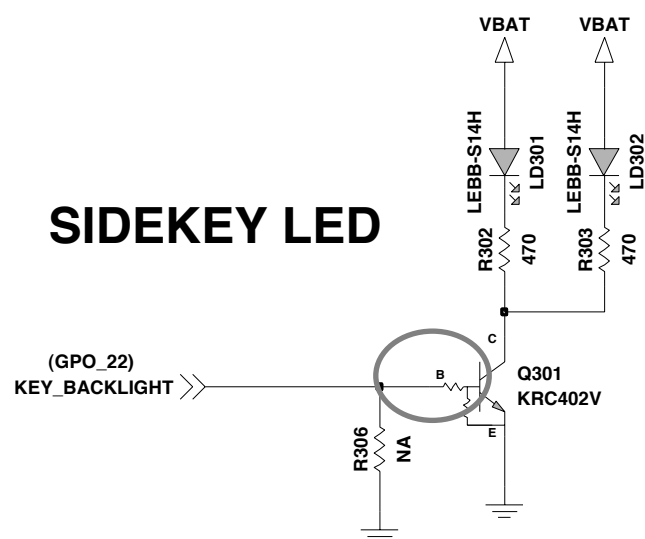


Figure 4-43.

4. TROUBLE SHOOTING

CHECKING FLOW

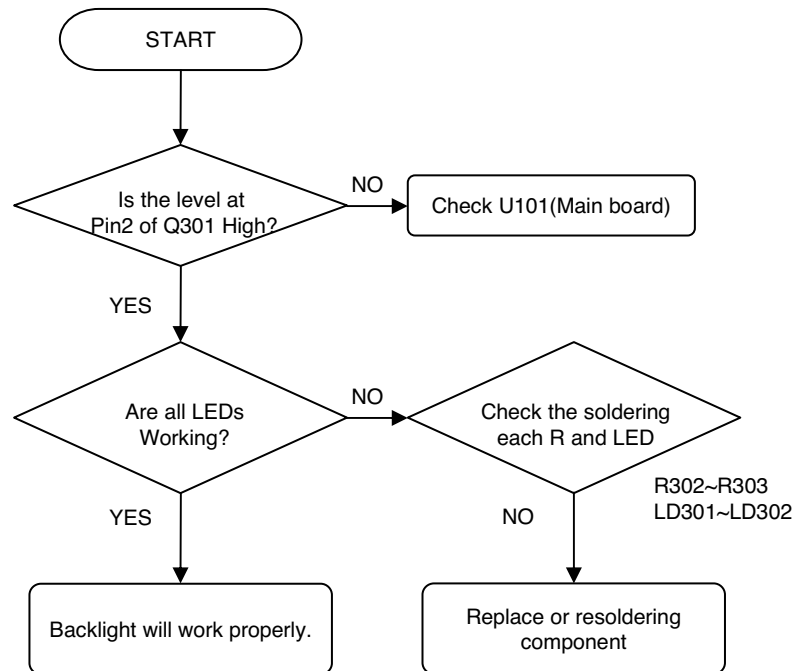


Figure 4-44.

4.9 RTC Trouble

TEST POINT

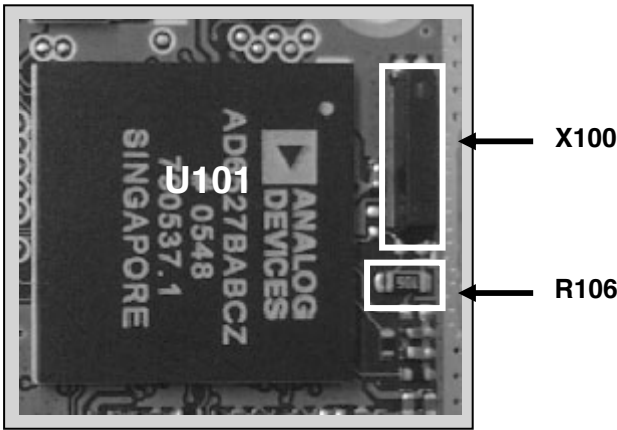


Figure 4-45.

CIRCUIT

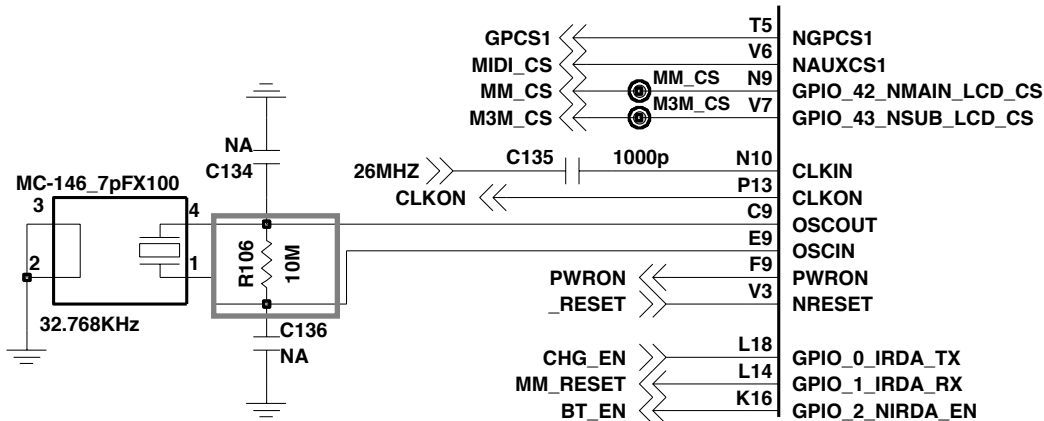


Figure 4-46.

4. TROUBLE SHOOTING

CHECKING FLOW

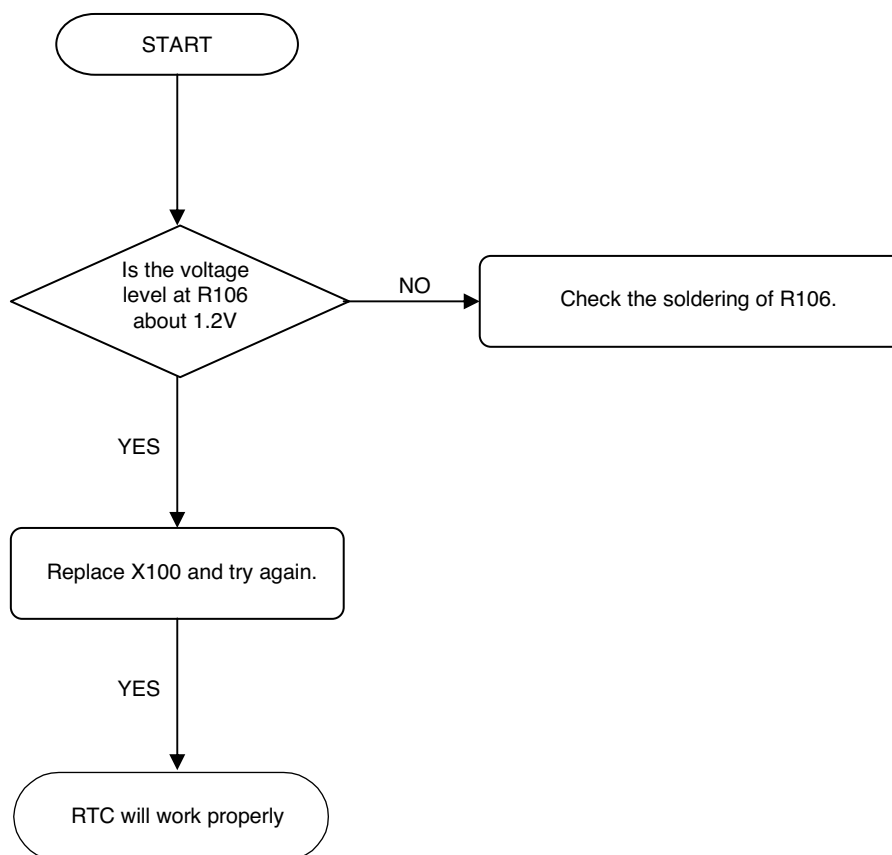


Figure 4-47.

4.10 Swivel Trouble

TEST POINT

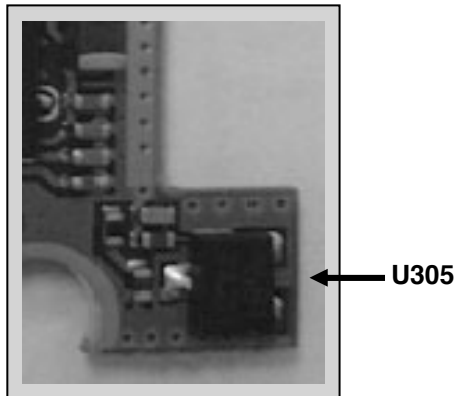


Figure 4-48.

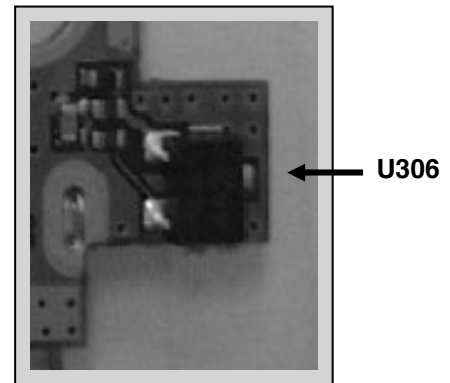
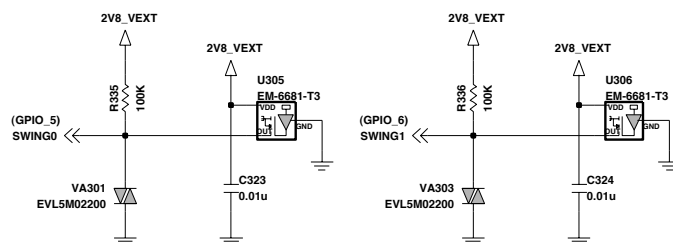


Figure 4-49.

CIRCUIT

FLIP SWITCH



	SWING0	SWING1
0	HIGH	LOW
180	LOW	HIGH

Figure 4-50.

4. TROUBLE SHOOTING

CHECKING FLOW

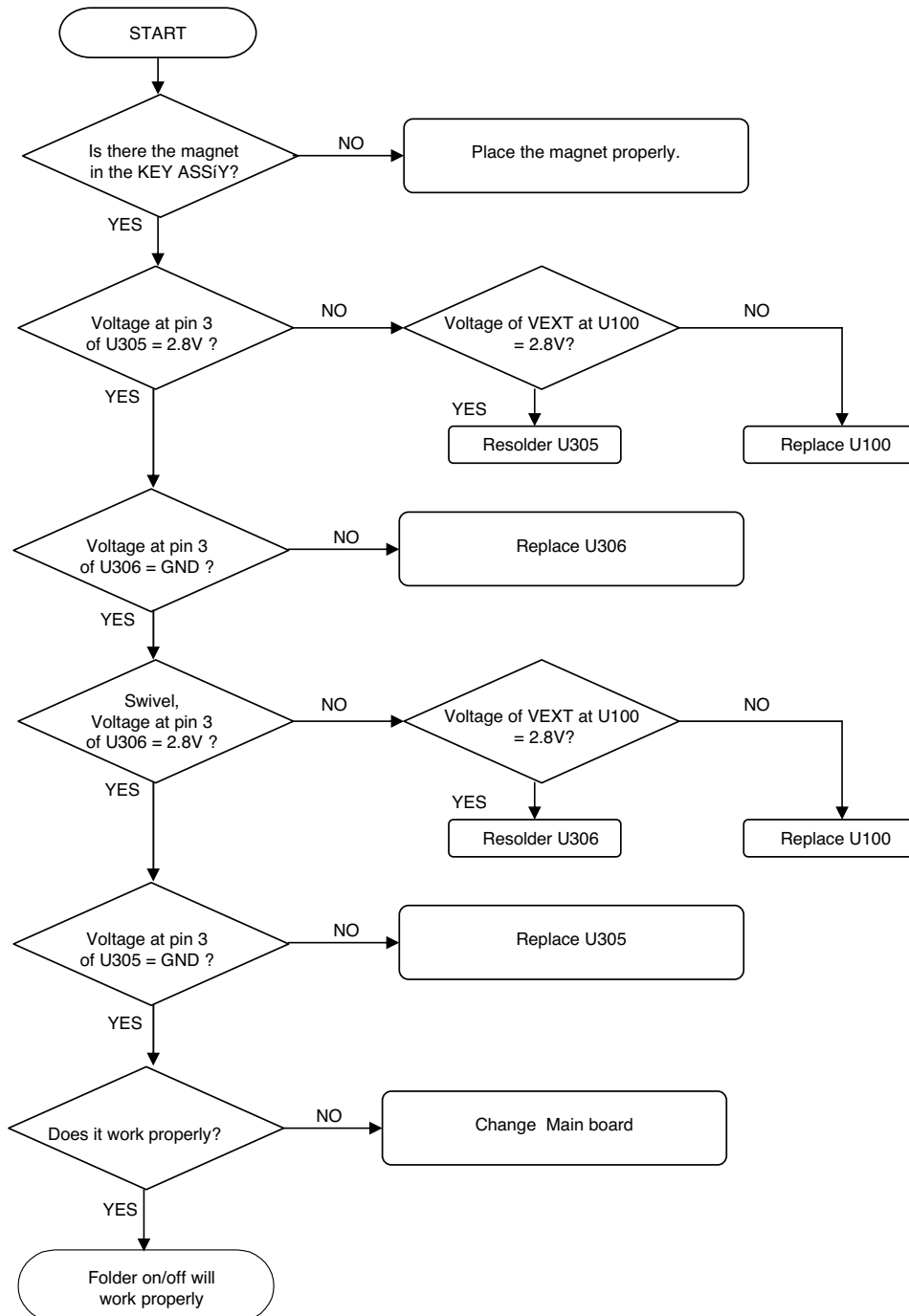


Figure 4-51.

4.11 LCD Trouble

TEST POINT

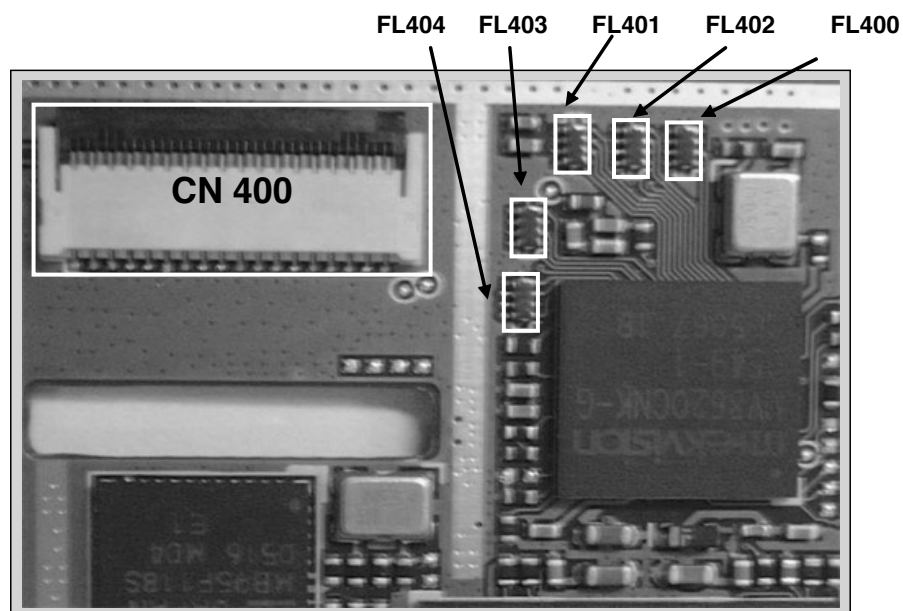


Figure 4-52.

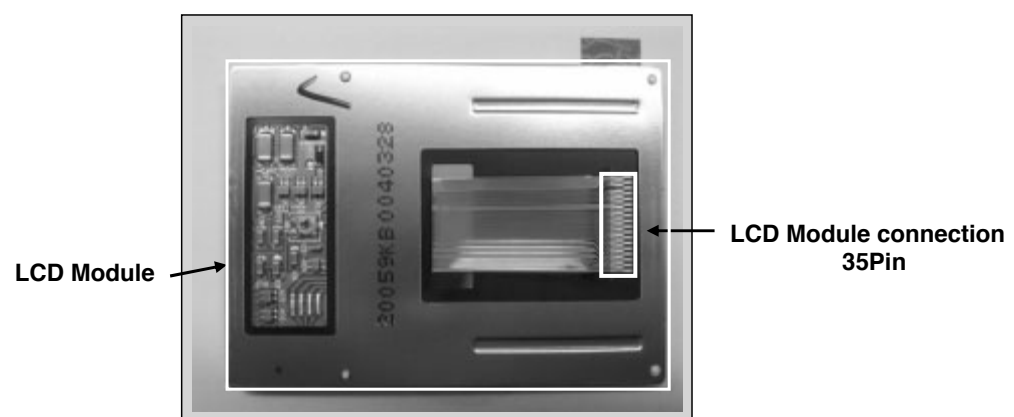


Figure 4-53.

4. TROUBLE SHOOTING

CIRCUIT

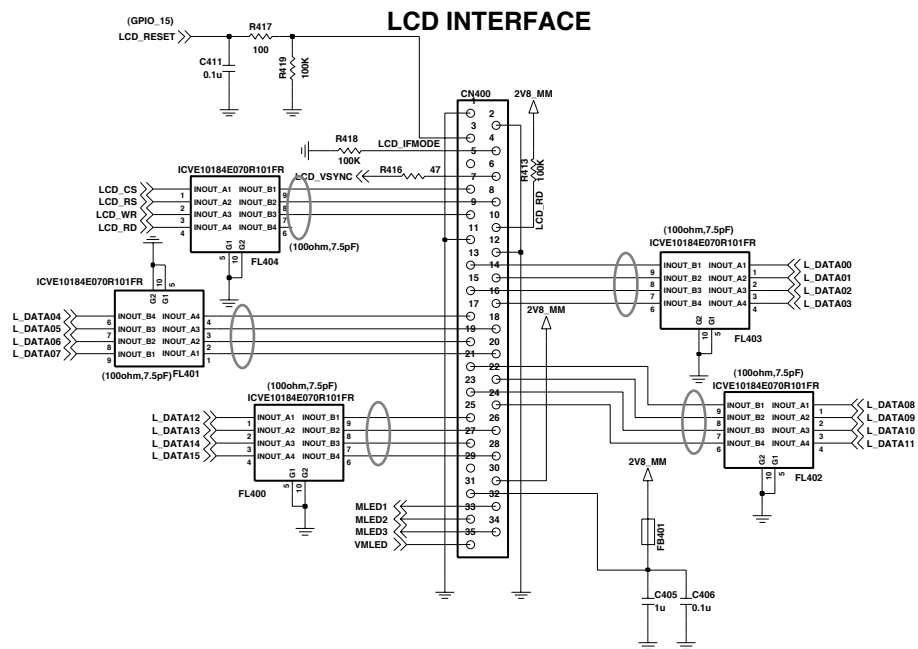


Figure 4-54.

CHARGE PUMP

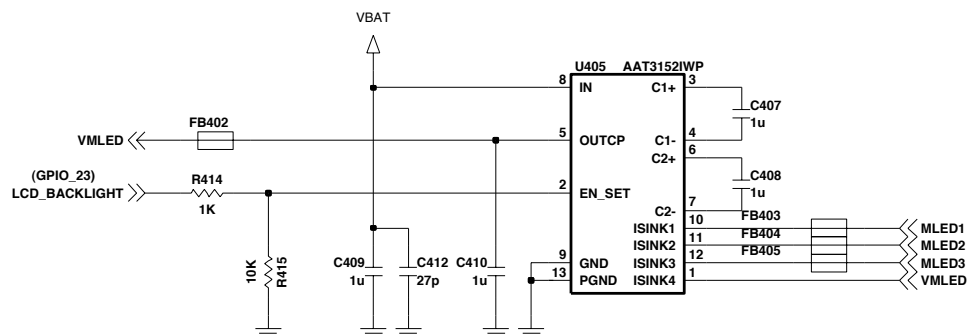


Figure 4-55.

CHECKING FLOW

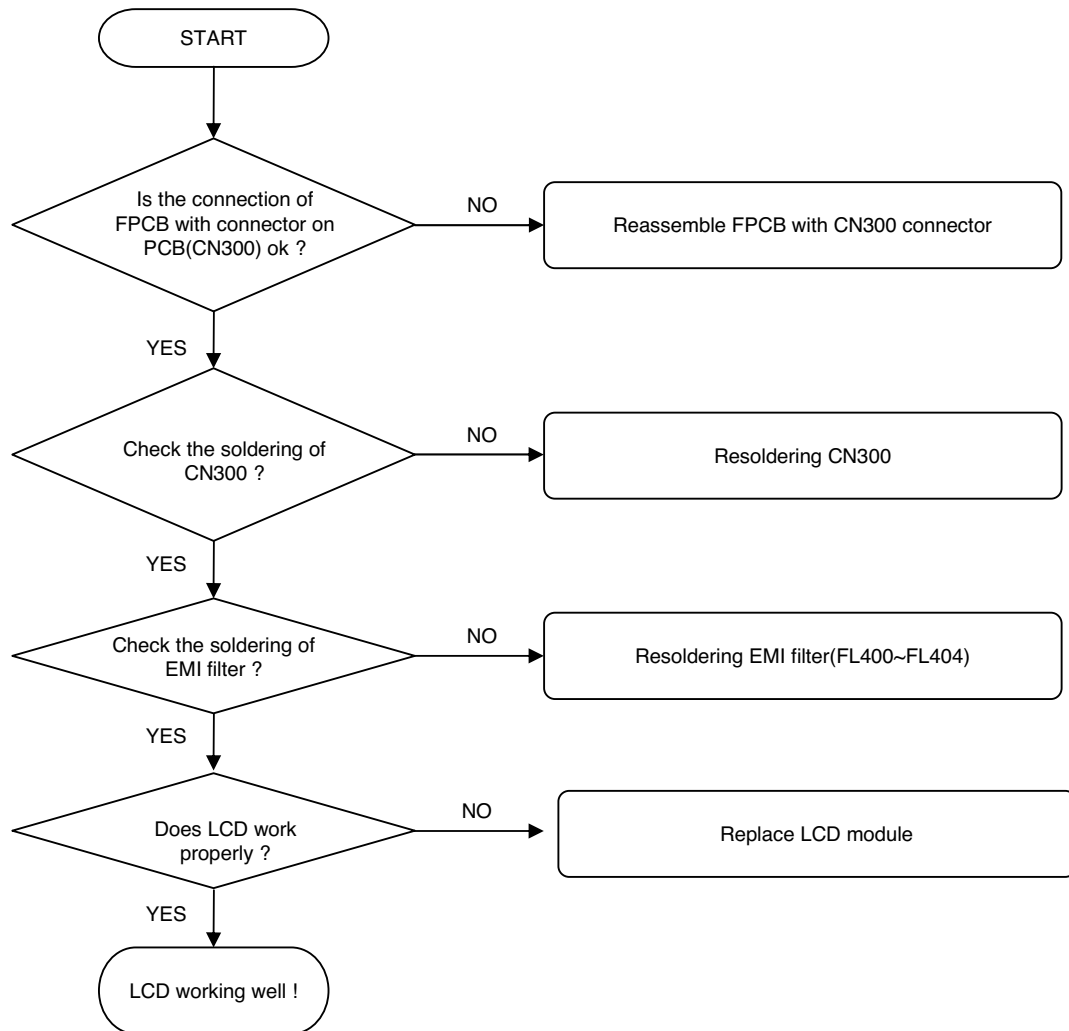


Figure 4-56.

4. TROUBLE SHOOTING

4.12 Camera Trouble

TEST POINT

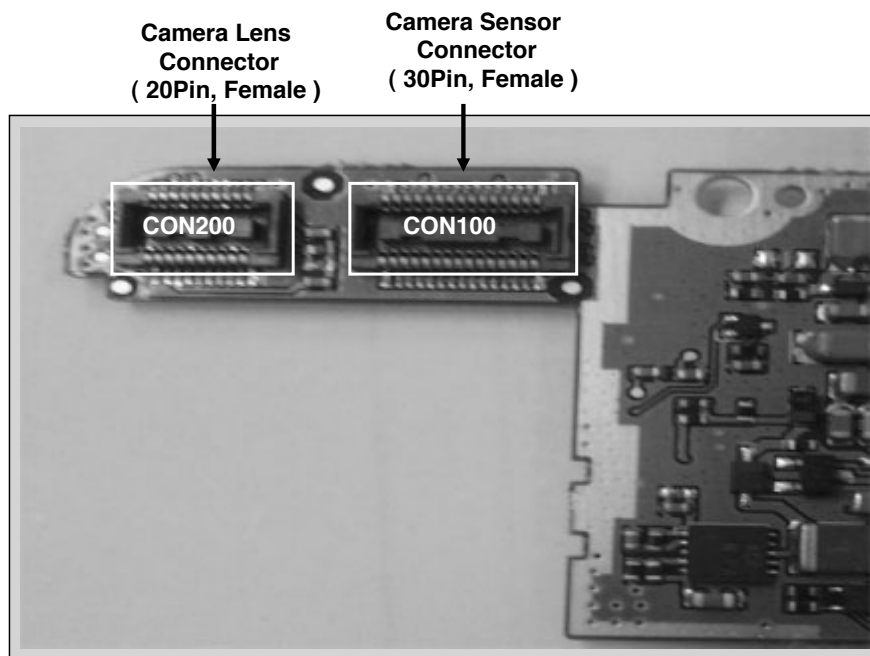


Figure 4-57.

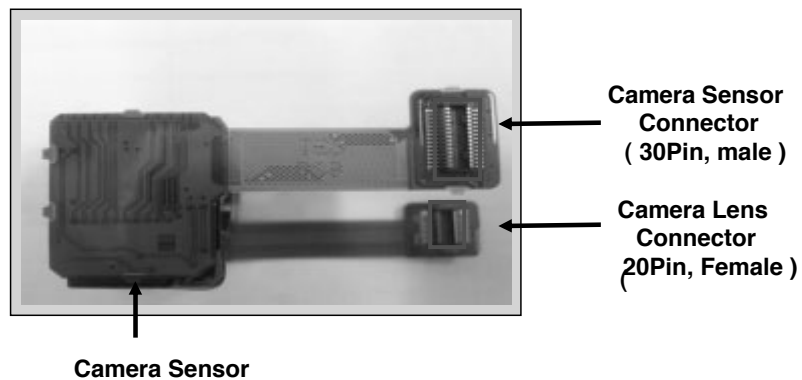


Figure 4-58.

4. TROUBLE SHOOTING

CIRCUIT

CAMERA SENSOR I/F

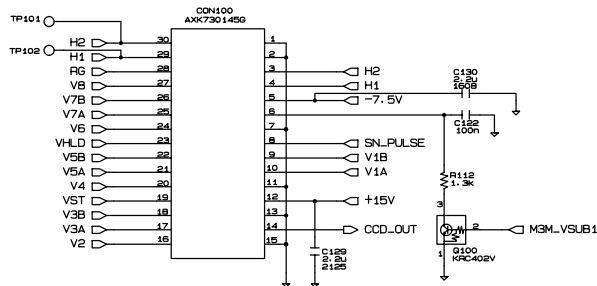


Figure 4-59.

CAMERA Lens I/F

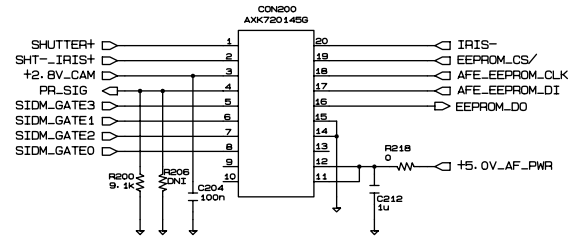
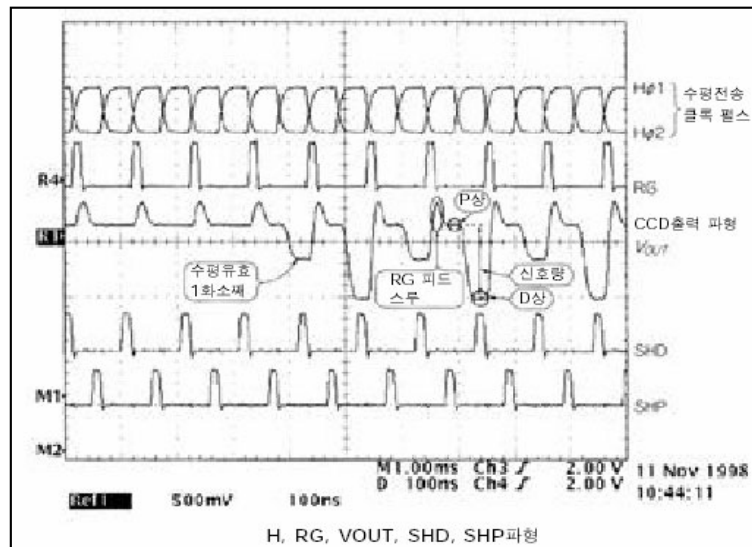


Figure 4-60.

WAVEFORM



Graph 4-11.

4. TROUBLE SHOOTING

TEST POINT

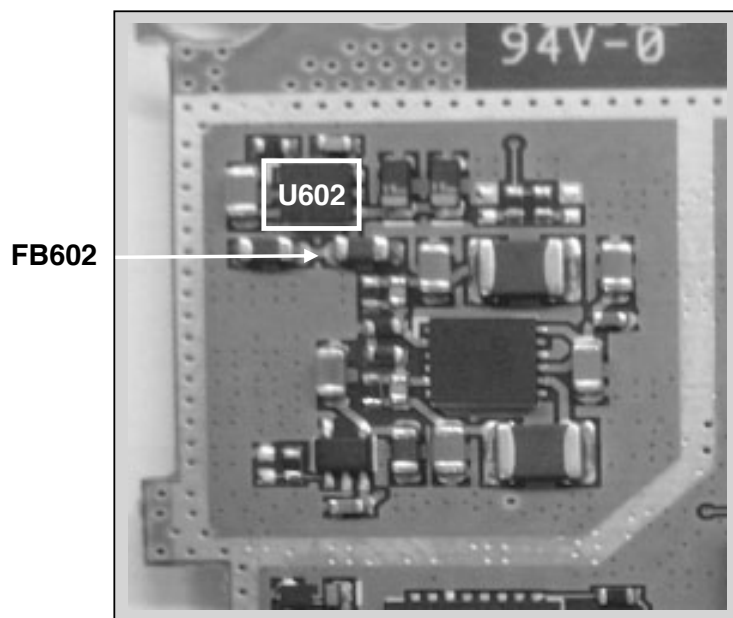


Figure 4-61.

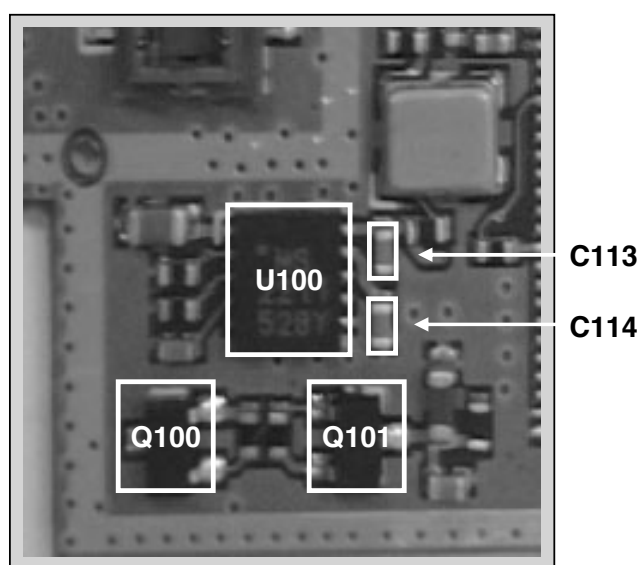


Figure 4-62.

CIRCUIT

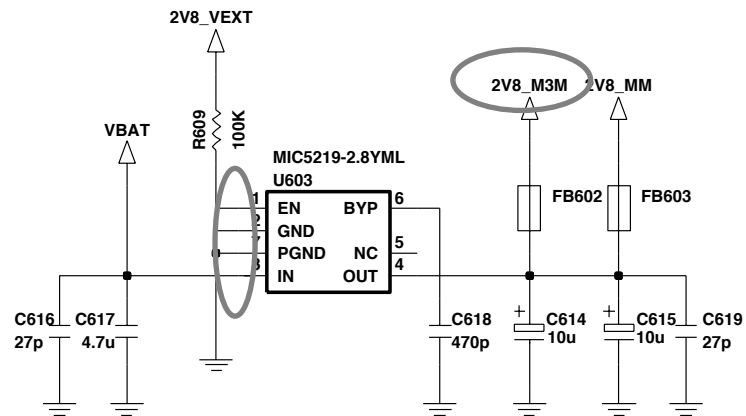


Figure 4-63.

M3MOM POWER SUPPLY

Change To MIC2211-NSYML

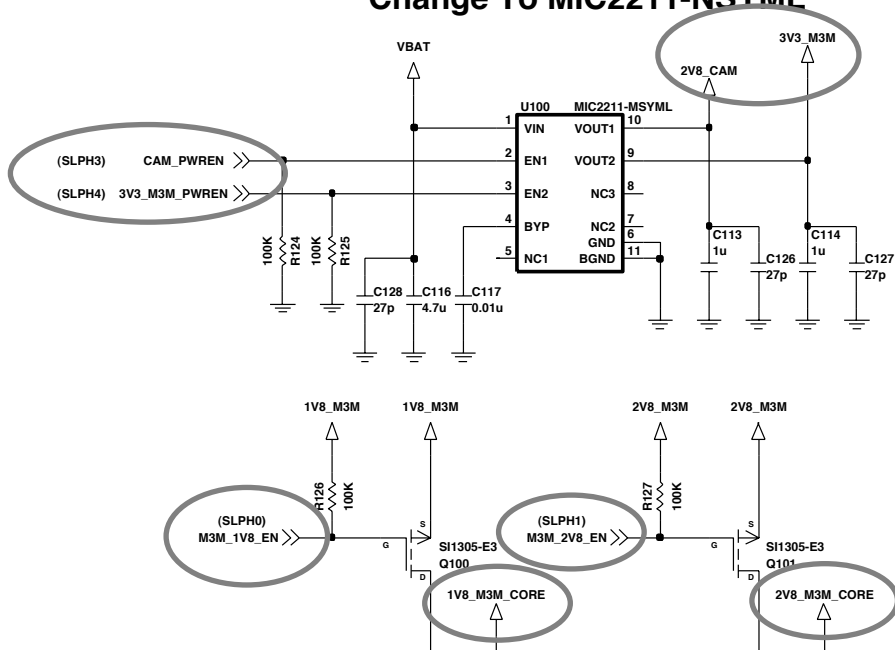


Figure 4-64.

4. TROUBLE SHOOTING

TEST POINT

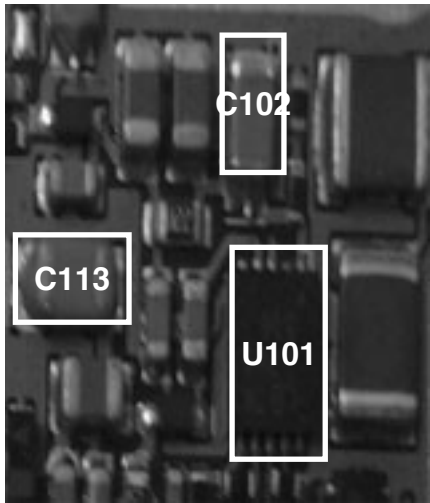


Figure 4-65.

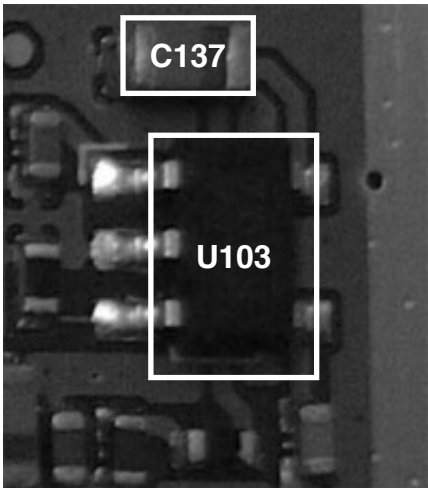
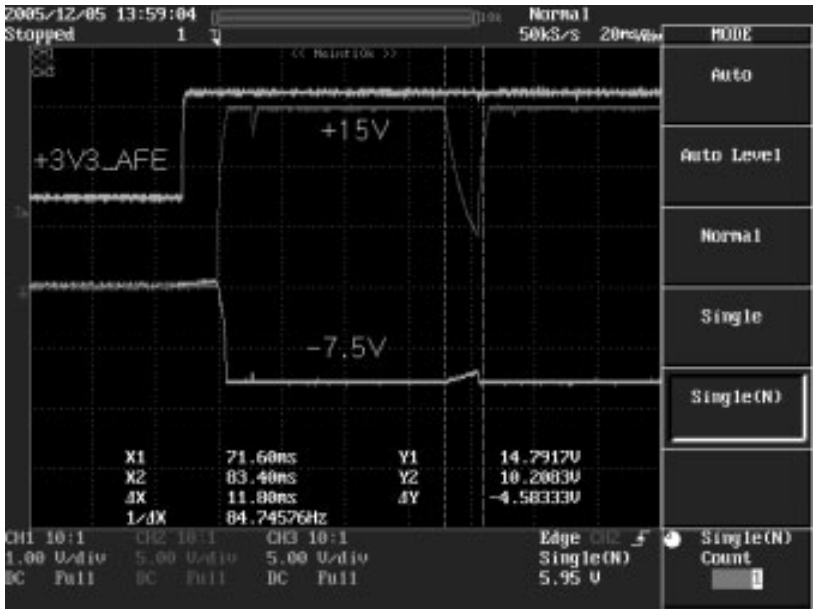


Figure 4-66.

WAVEFORM



Graph 4-12.

CIRCUIT

CCD DC/DC Converter

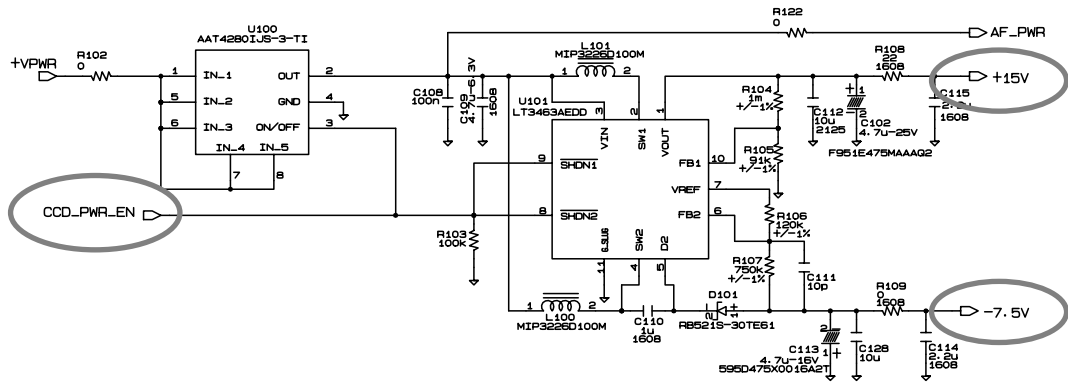


Figure 4-67.

AFE & VDRIVER & CONNECTOR

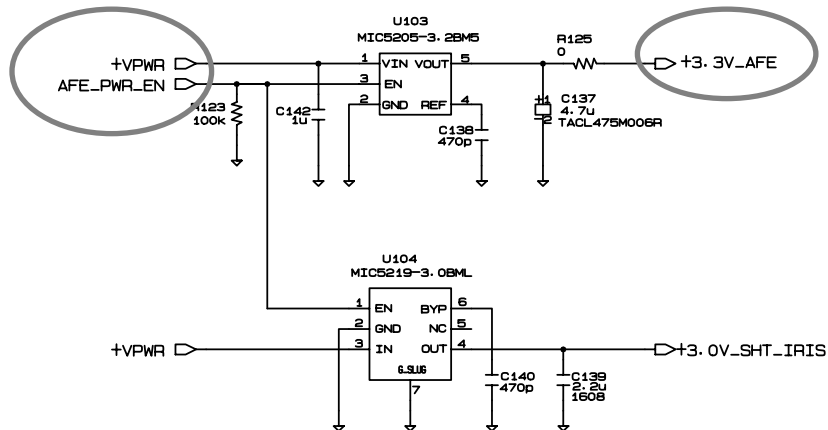


Figure 4-68.

4. TROUBLE SHOOTING

TEST POINT

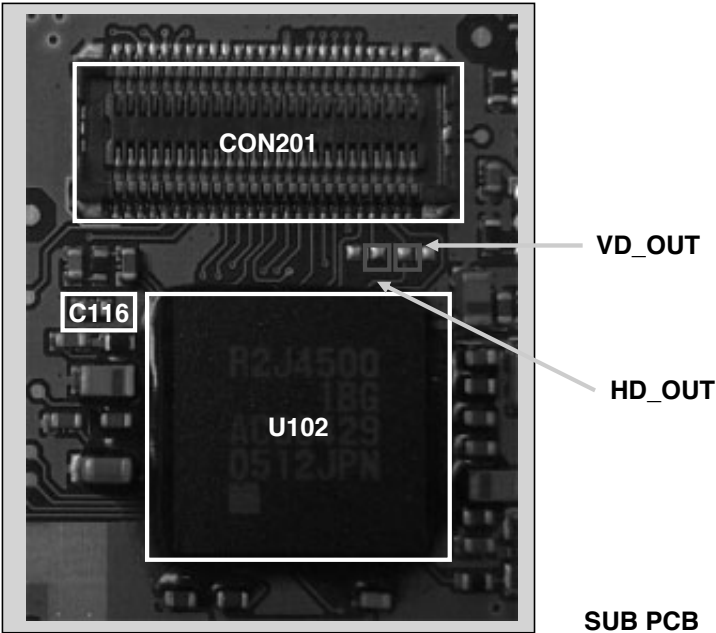


Figure 4-69.

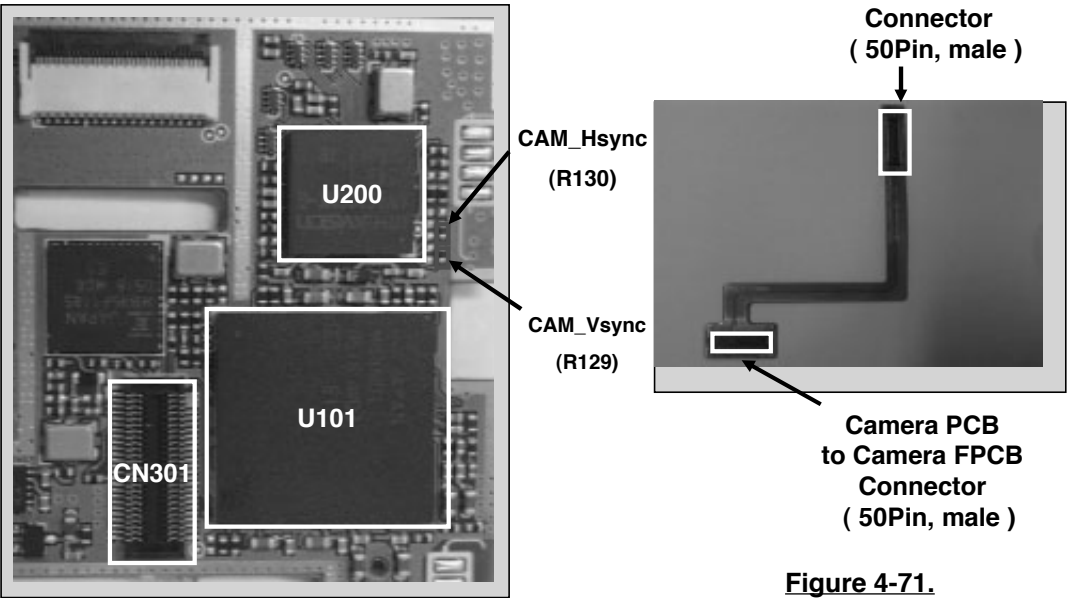


Figure 4-70.

Figure 4-71.

4. TROUBLE SHOOTING

CIRCUIT

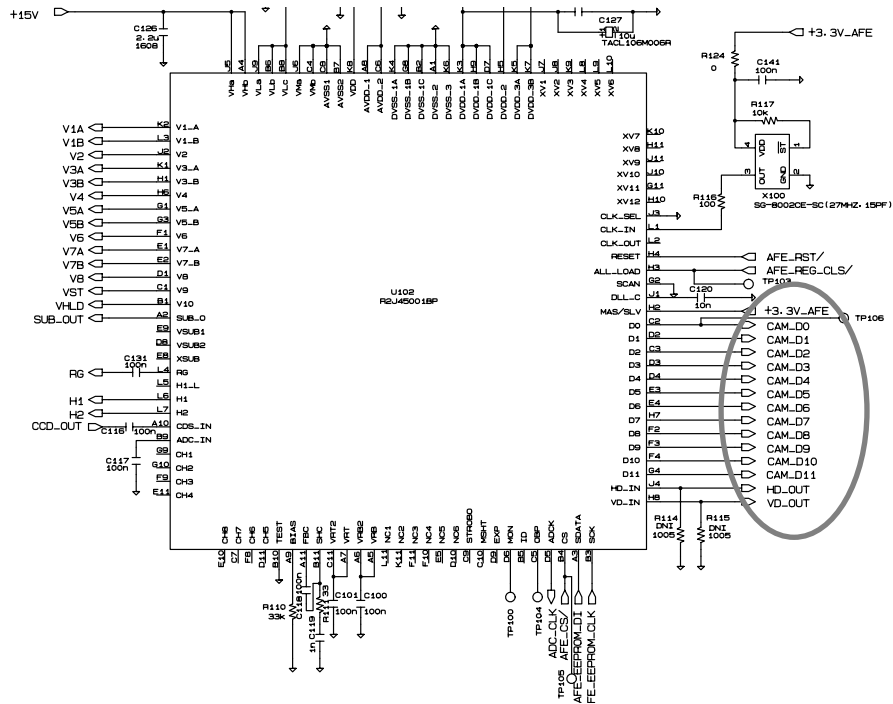


Figure 4-72.

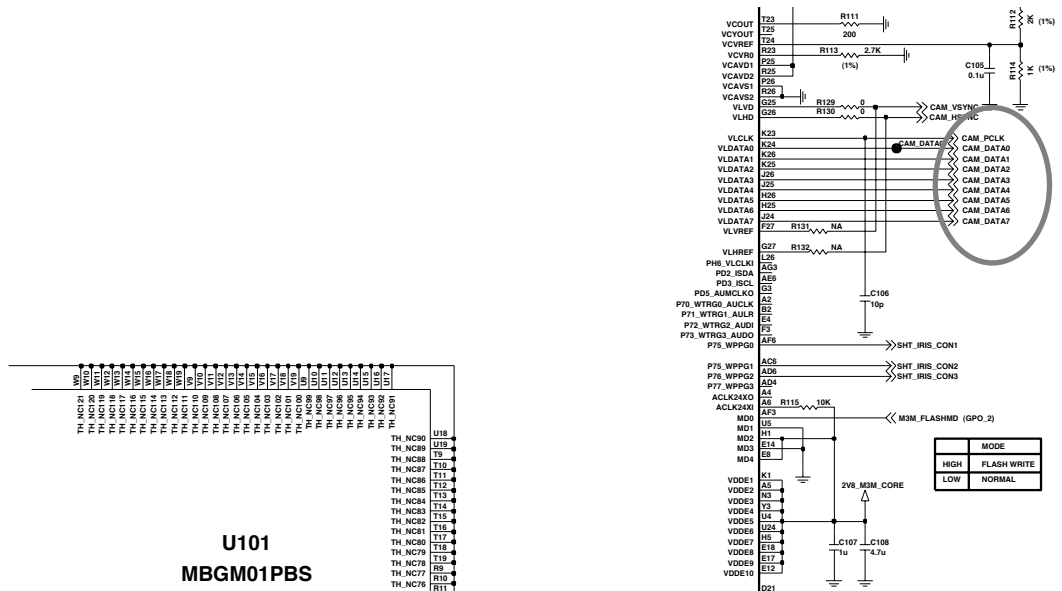
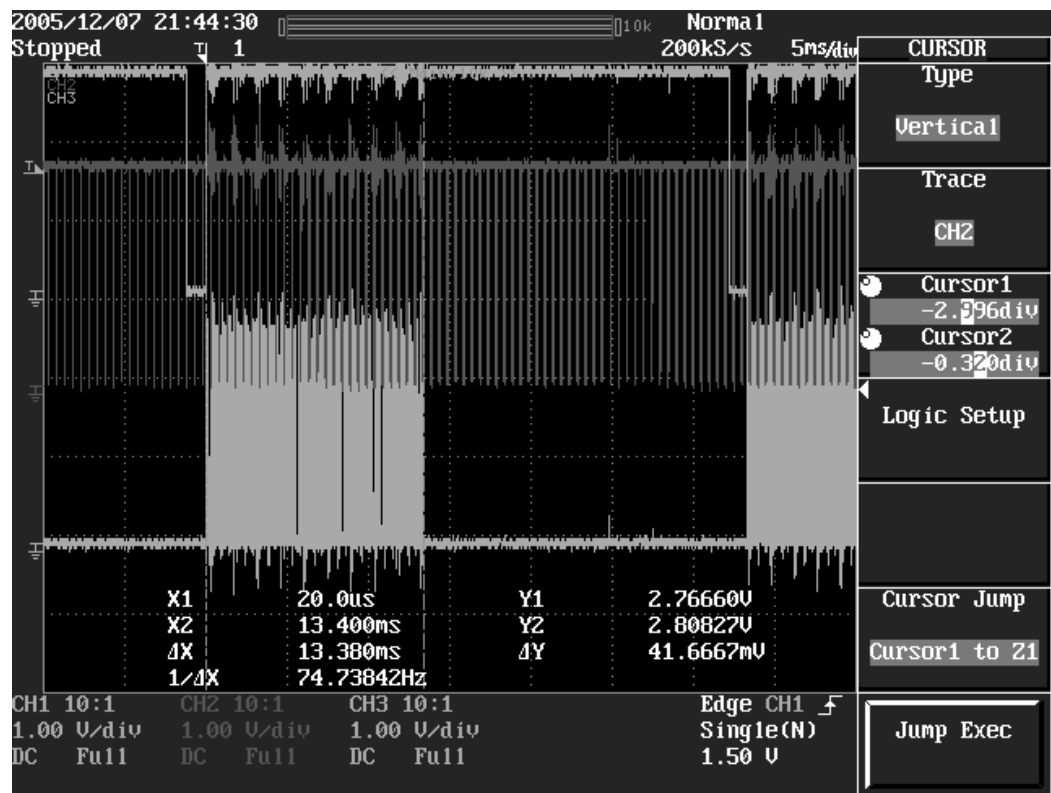


Figure 4-73.

4. TROUBLE SHOOTING

WAVEFORM



Graph 4-13.

CHECKING FLOW

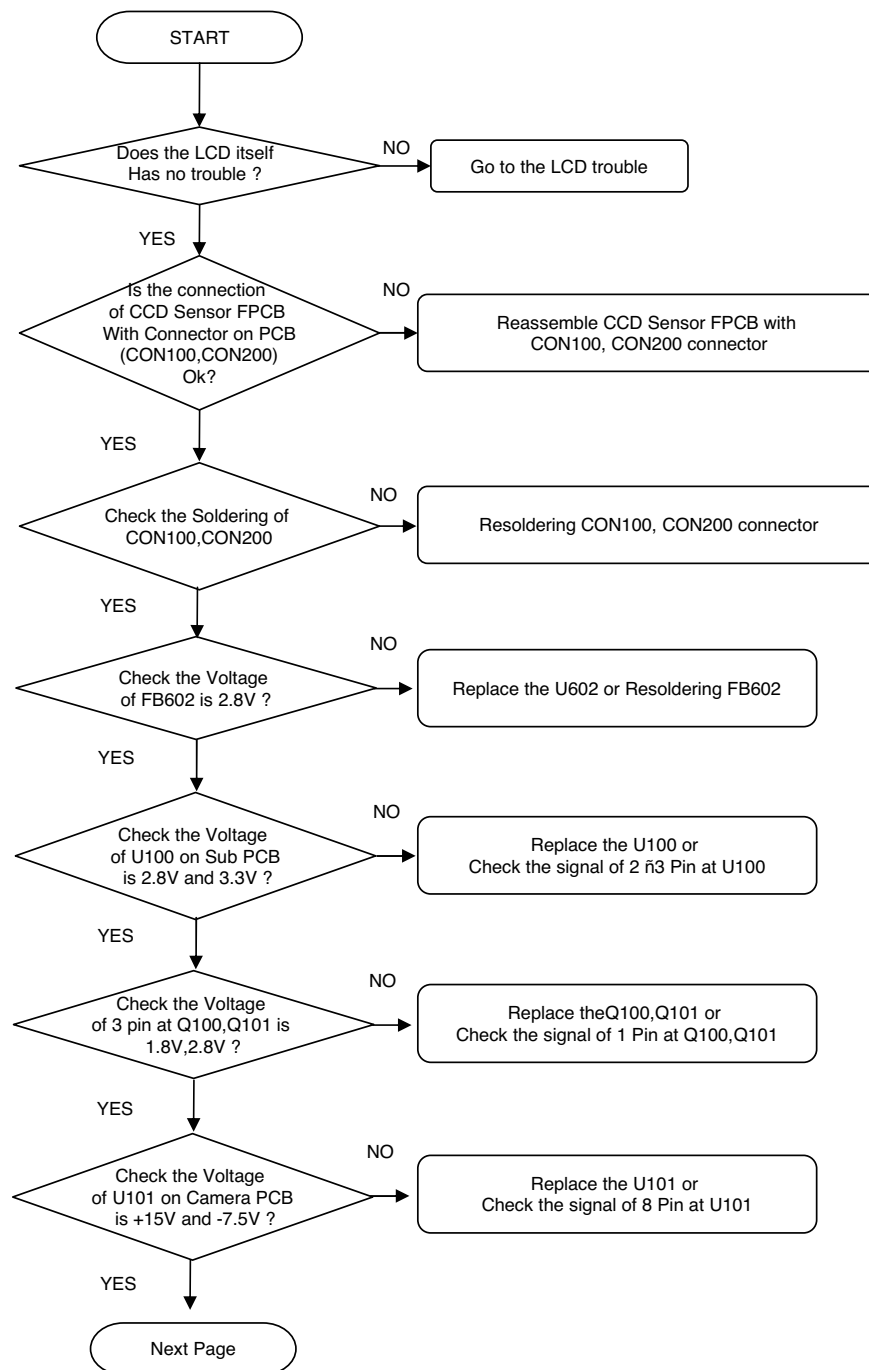


Figure 4-74.

4. TROUBLE SHOOTING

CHECKING FLOW

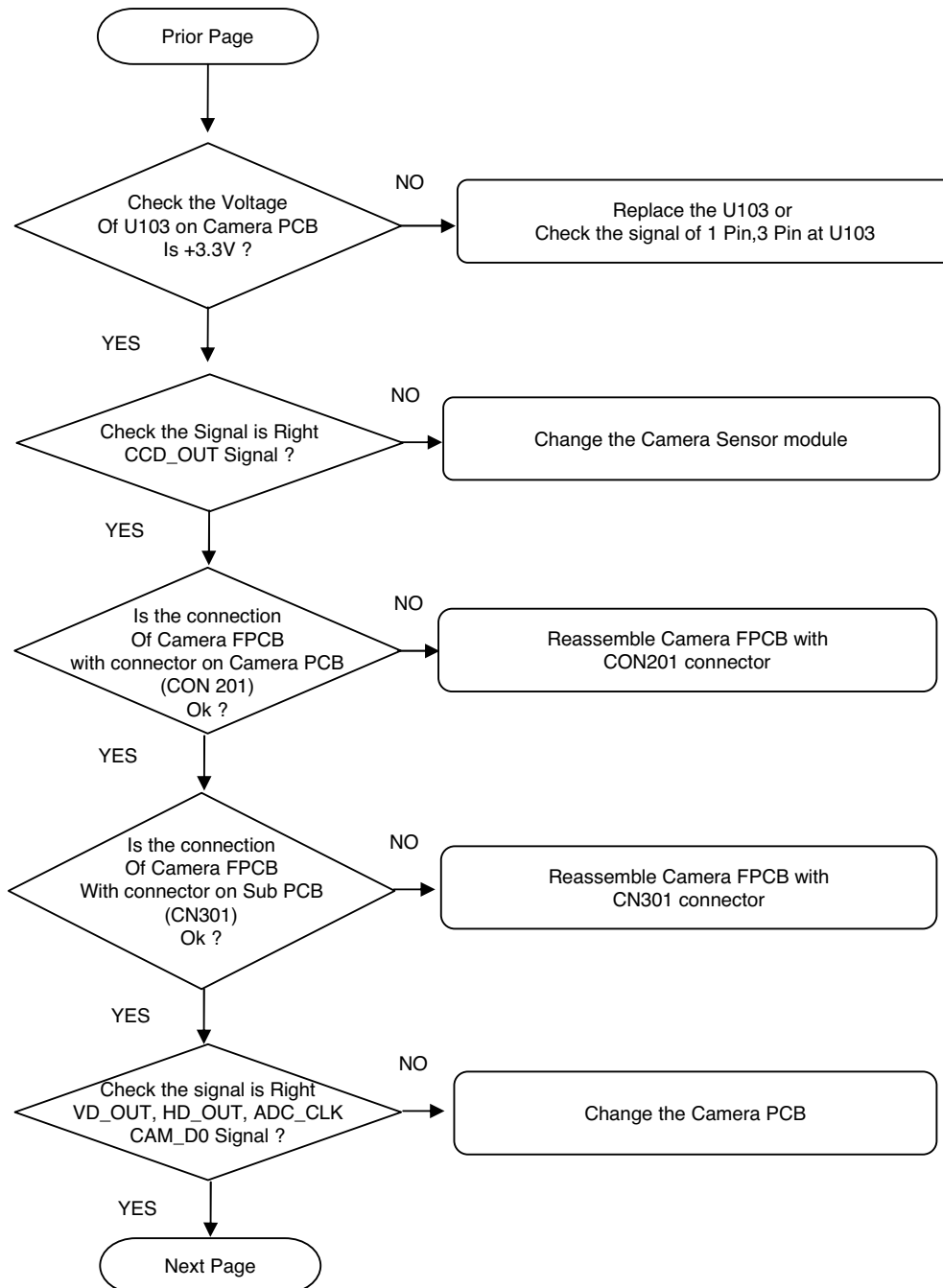


Figure 4-75.

CHECKING FLOW

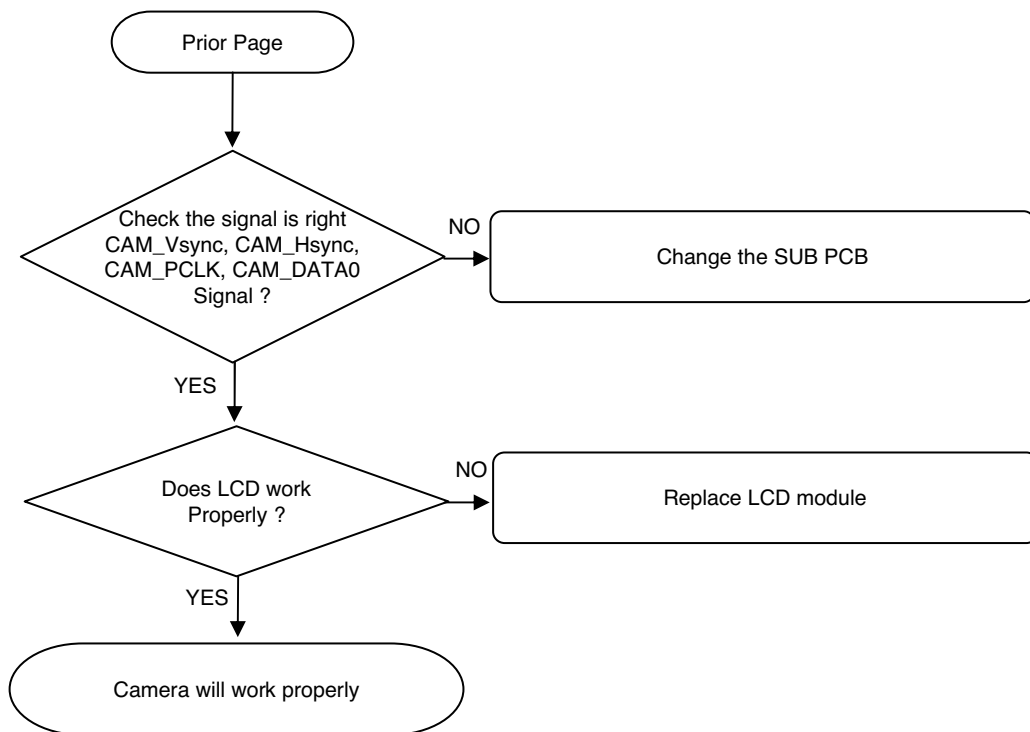


Figure 4-76.

4. TROUBLE SHOOTING

4.13 Speaker Trouble

TEST POINT

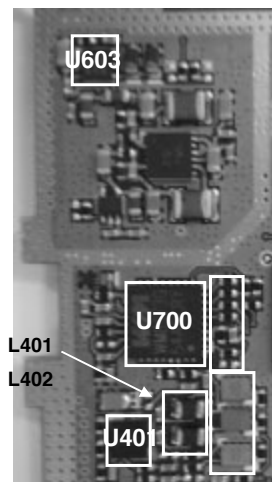
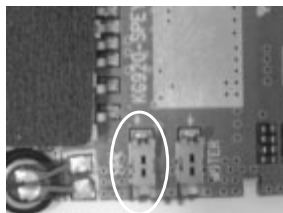
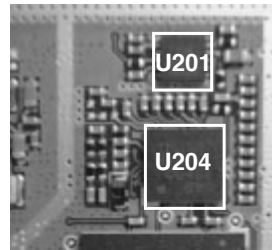


Figure 4-77.



CN102(Key)

Figure 4-78.

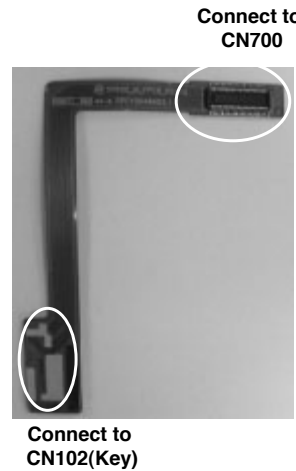


Figure 4-79.

CIRCUIT

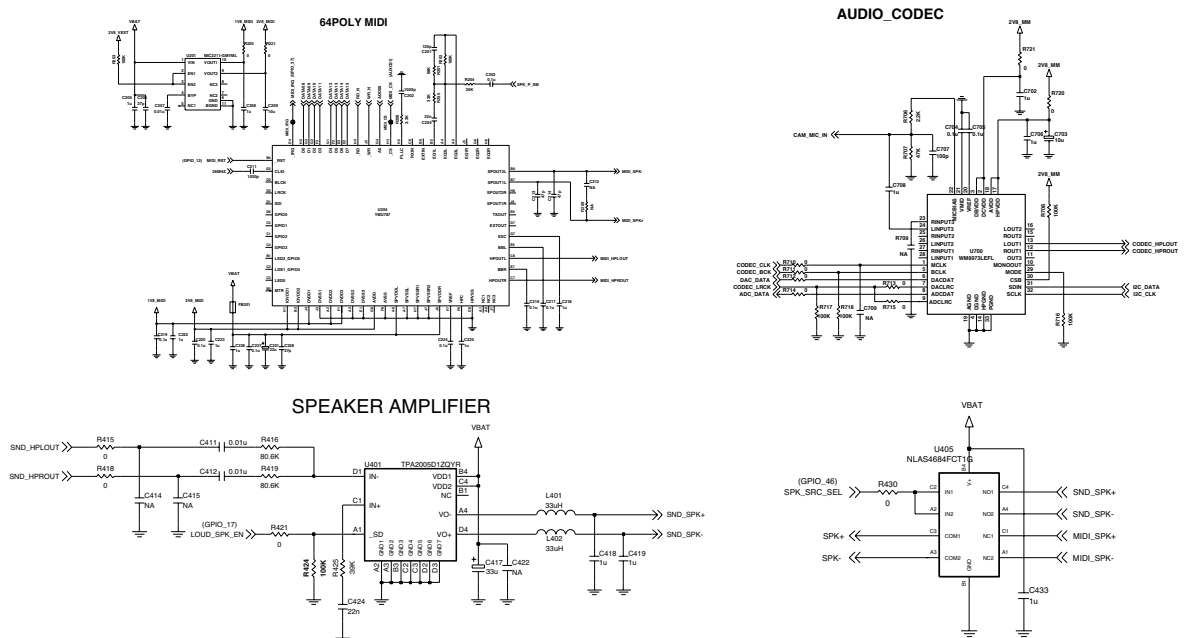


Figure 4-80.

CHECKING FLOW

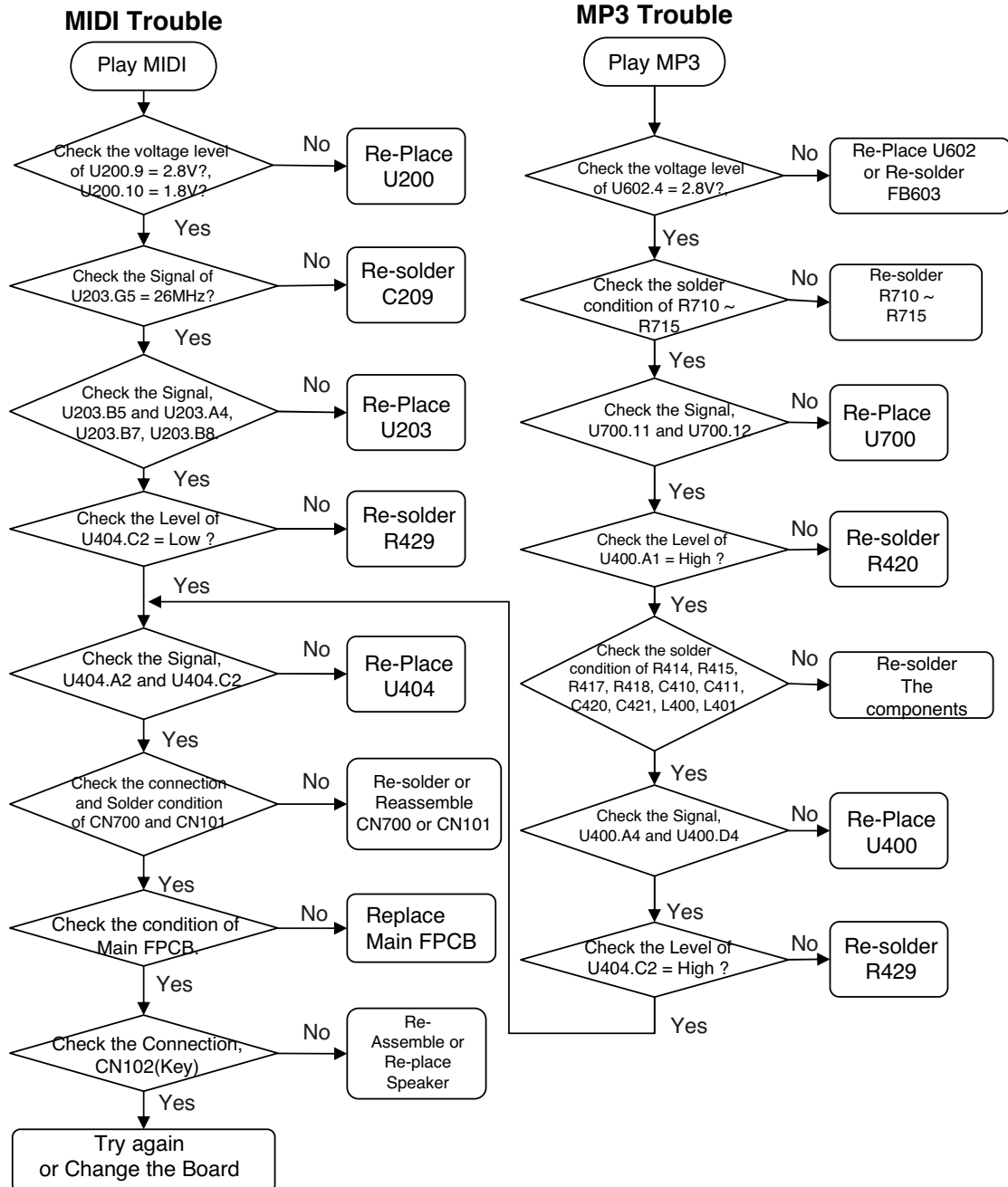


Figure 4-81.

TEST POINT

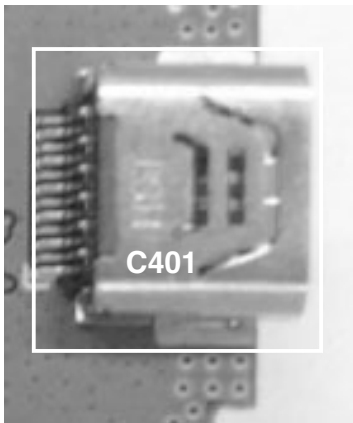


Figure 4-83.



CIRCUIT

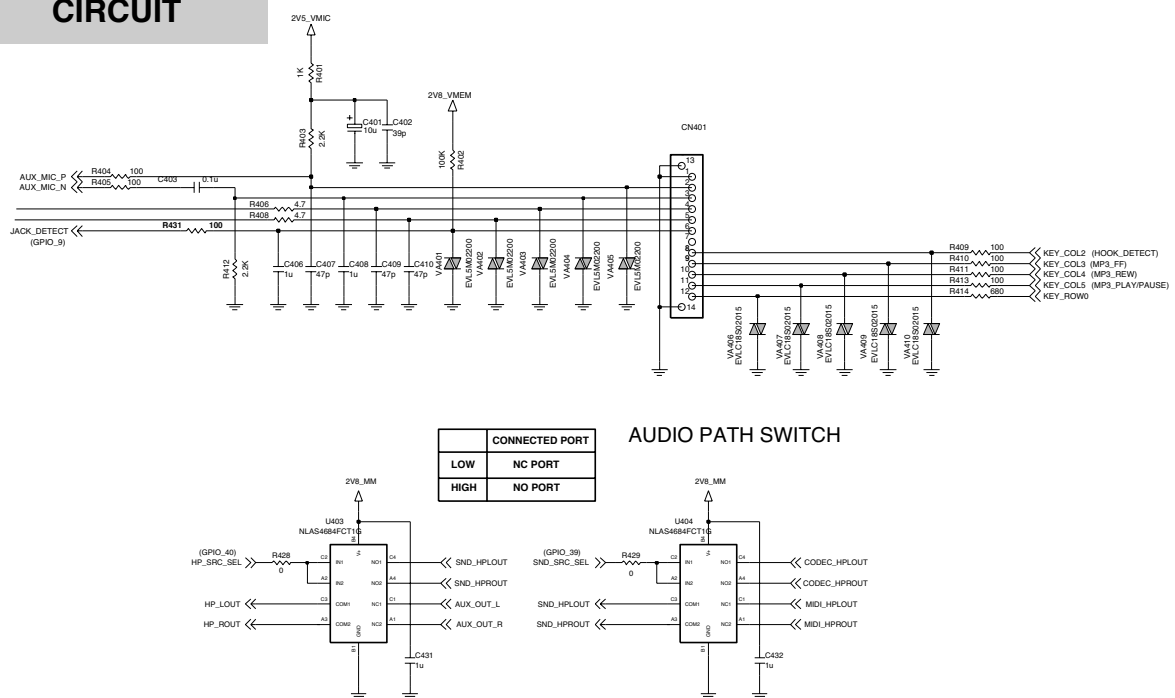


Figure 4-85.

CHECKING FLOW

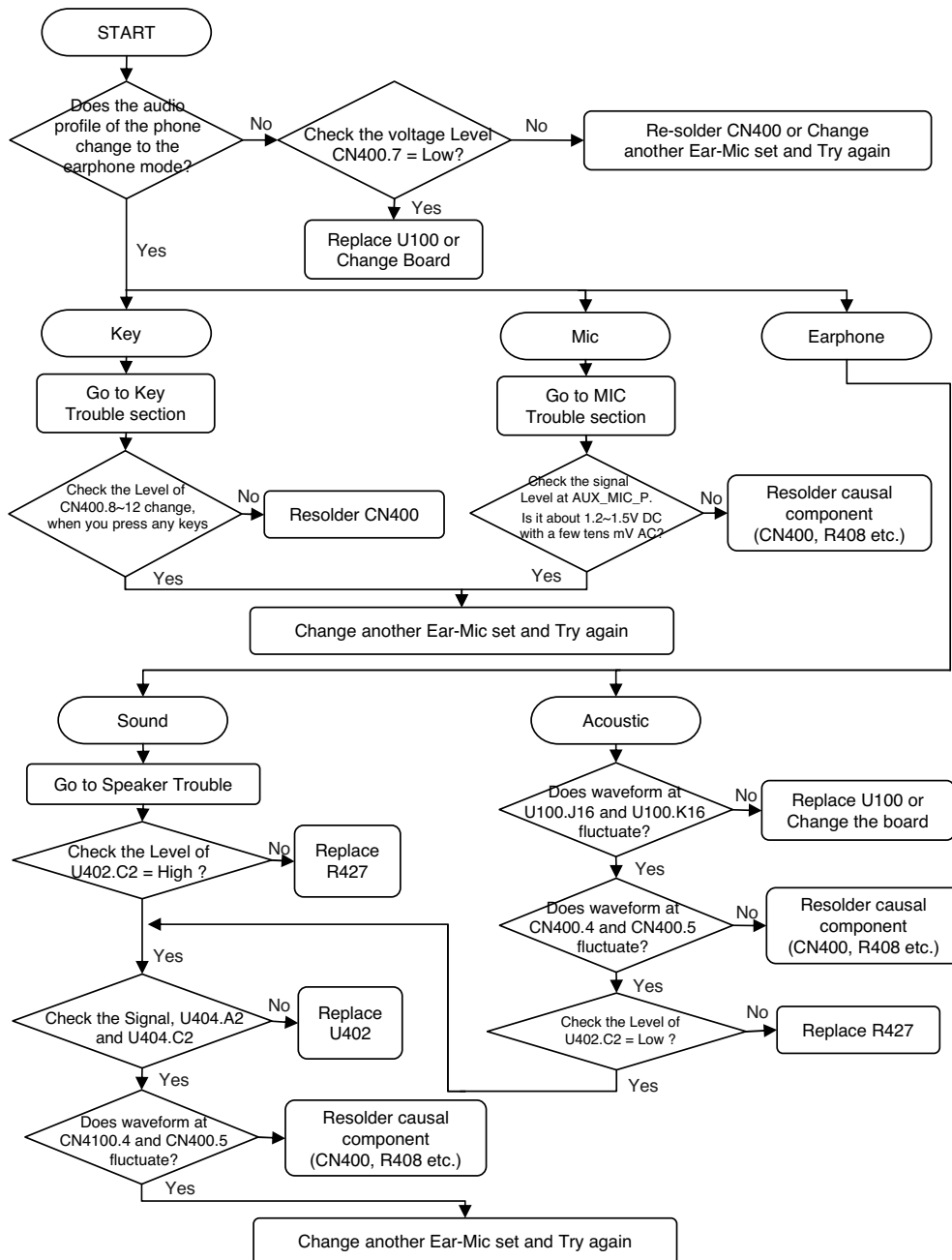


Figure 4-86.

4. TROUBLE SHOOTING

4.15 Receiver Trouble

TEST POINT

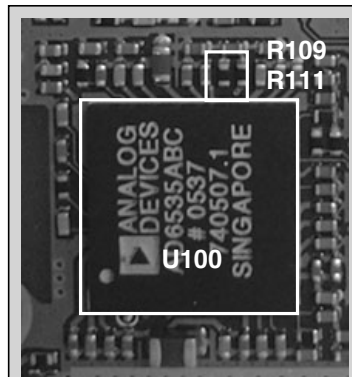


Figure 4-87.

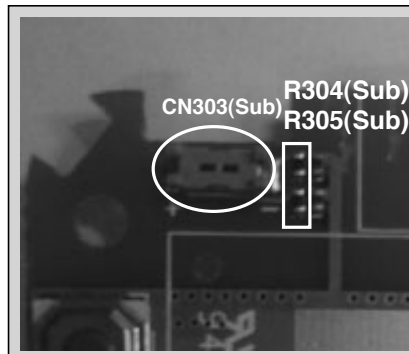


Figure 4-88.

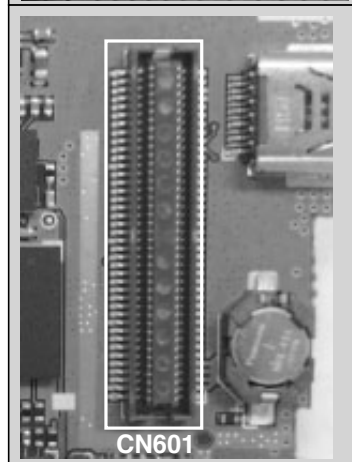


Figure 4-89.

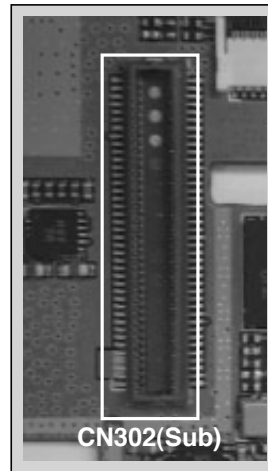


Figure 4-90.

CIRCUIT

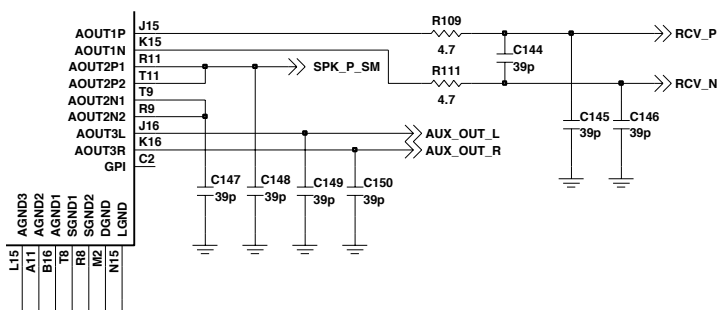
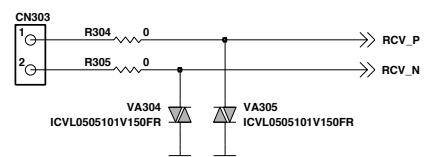


Figure 4-91.

RECEIVER CONNECTOR



CHECKING FLOW

SETTING : After initialize Agilent 8960, Test EGSM, DCS mode

Set the property of audio as PRBS or continuous wave. Set the receiving volume of mobile as Max.

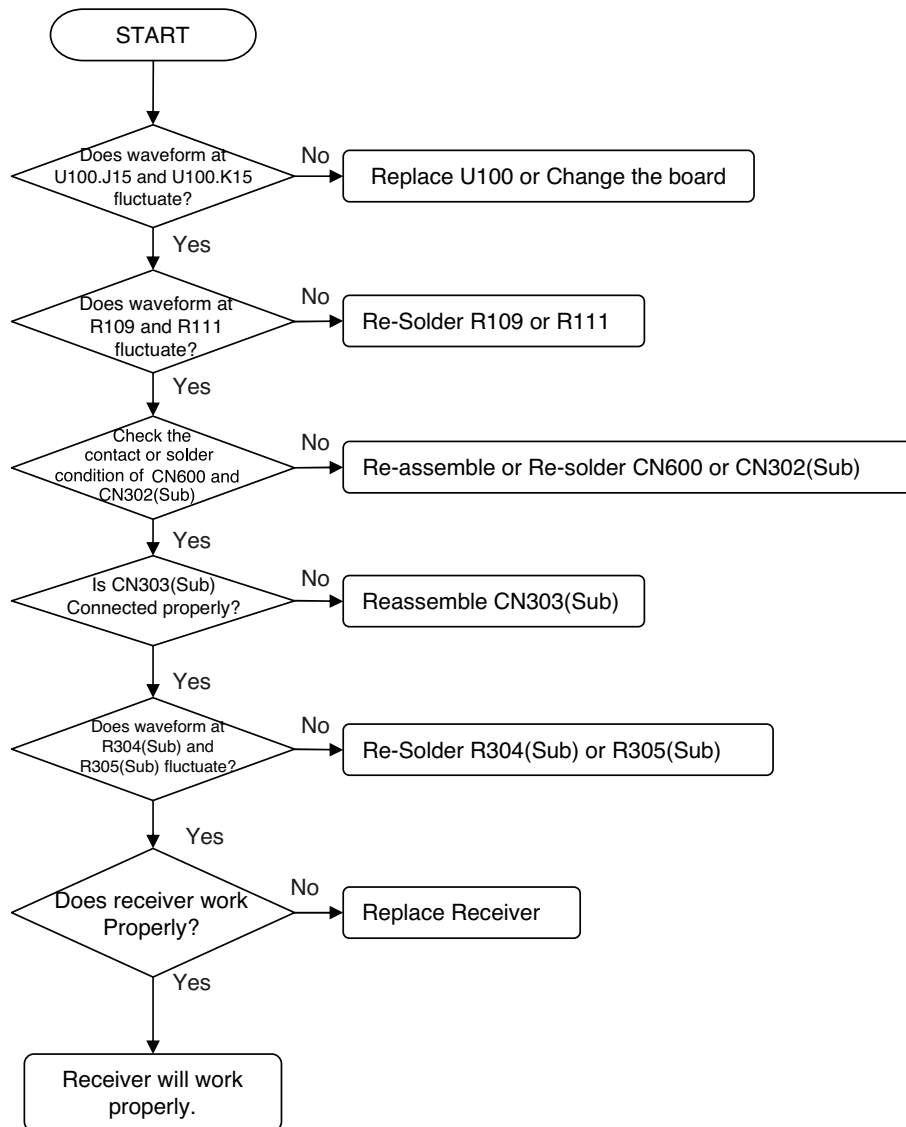


Figure 4-92.

4. TROUBLE SHOOTING

4.16 Microphone Trouble

TEST POINT

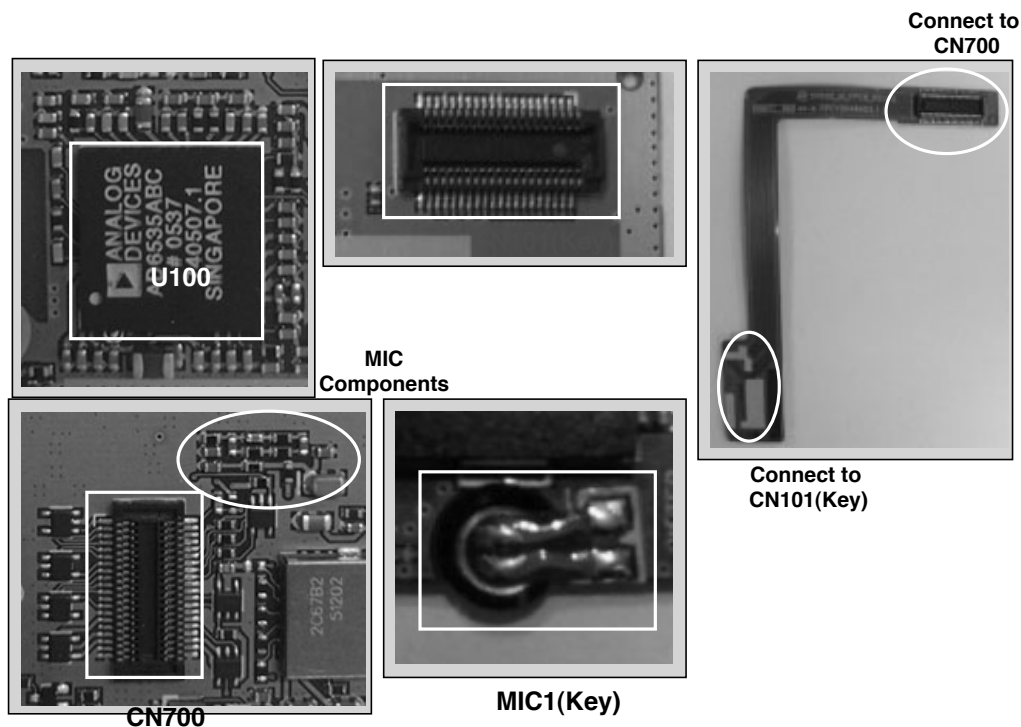


Figure 4-93.

CIRCUIT

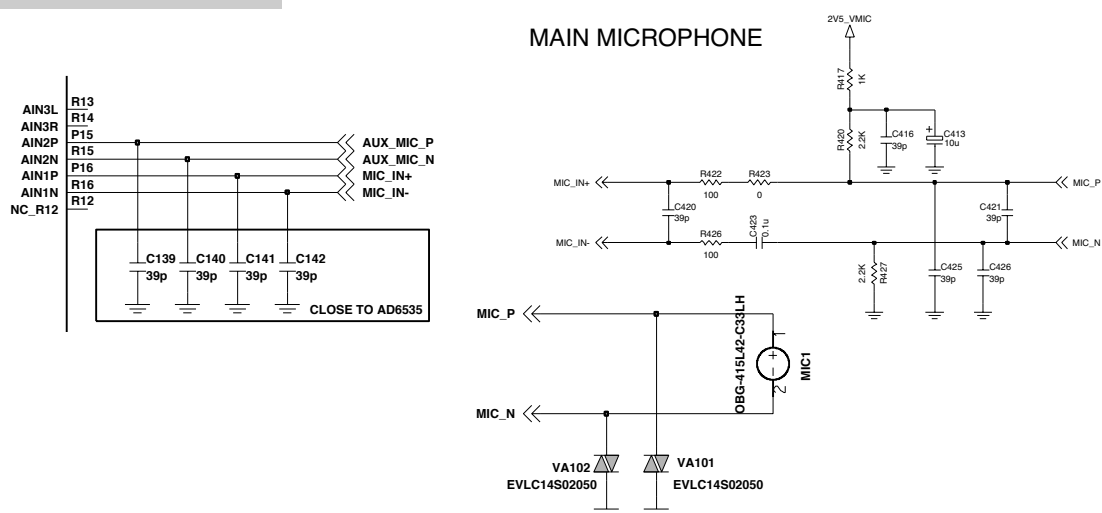


Figure 4-94.

CHECKING FLOW

SETTING : After initialize Agilent 8960, Test EGSM, DCS mode
Put the sound source near The MIC. And Connect the Mobile.

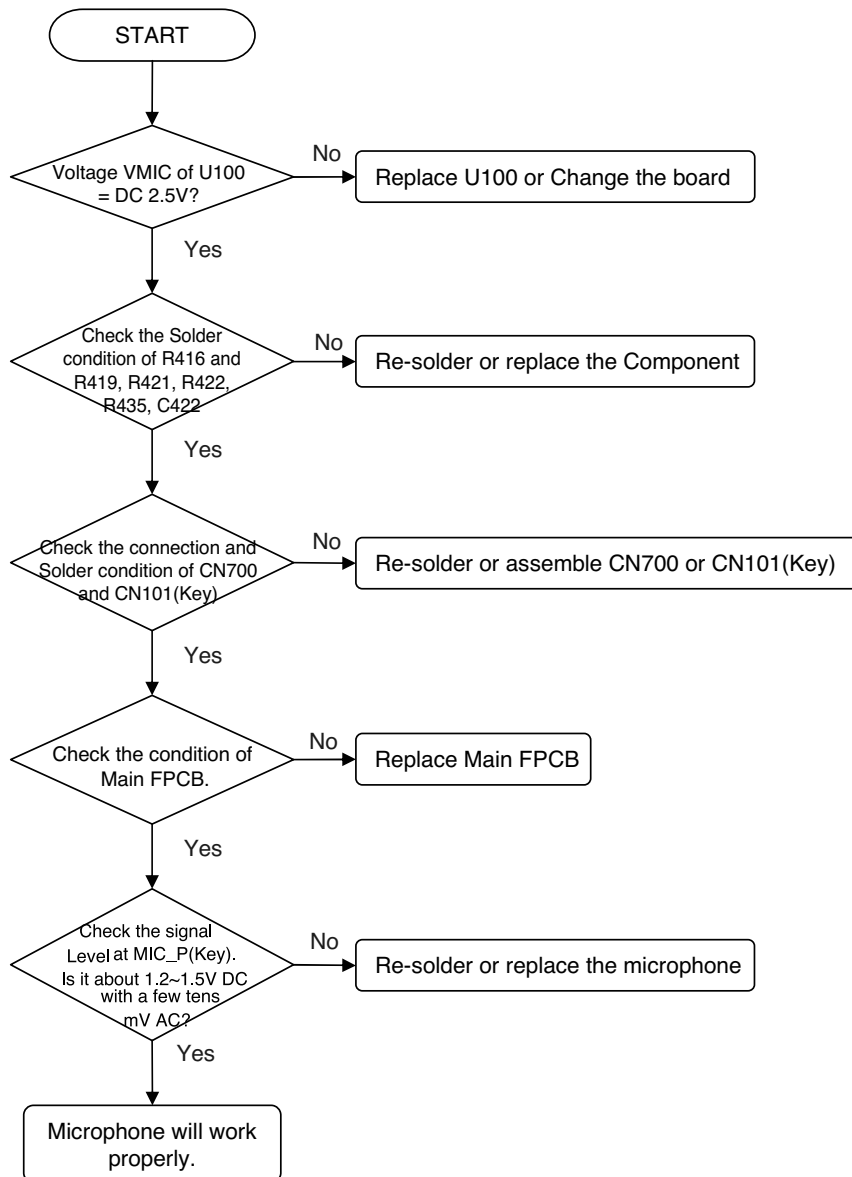


Figure 4-95.

5. DOWNLOAD AND CALIBRATION

5. DOWNLOAD AND CALIBRATION

5.1 Download

A. Download Setup

Figure 5-1 describes Download setup

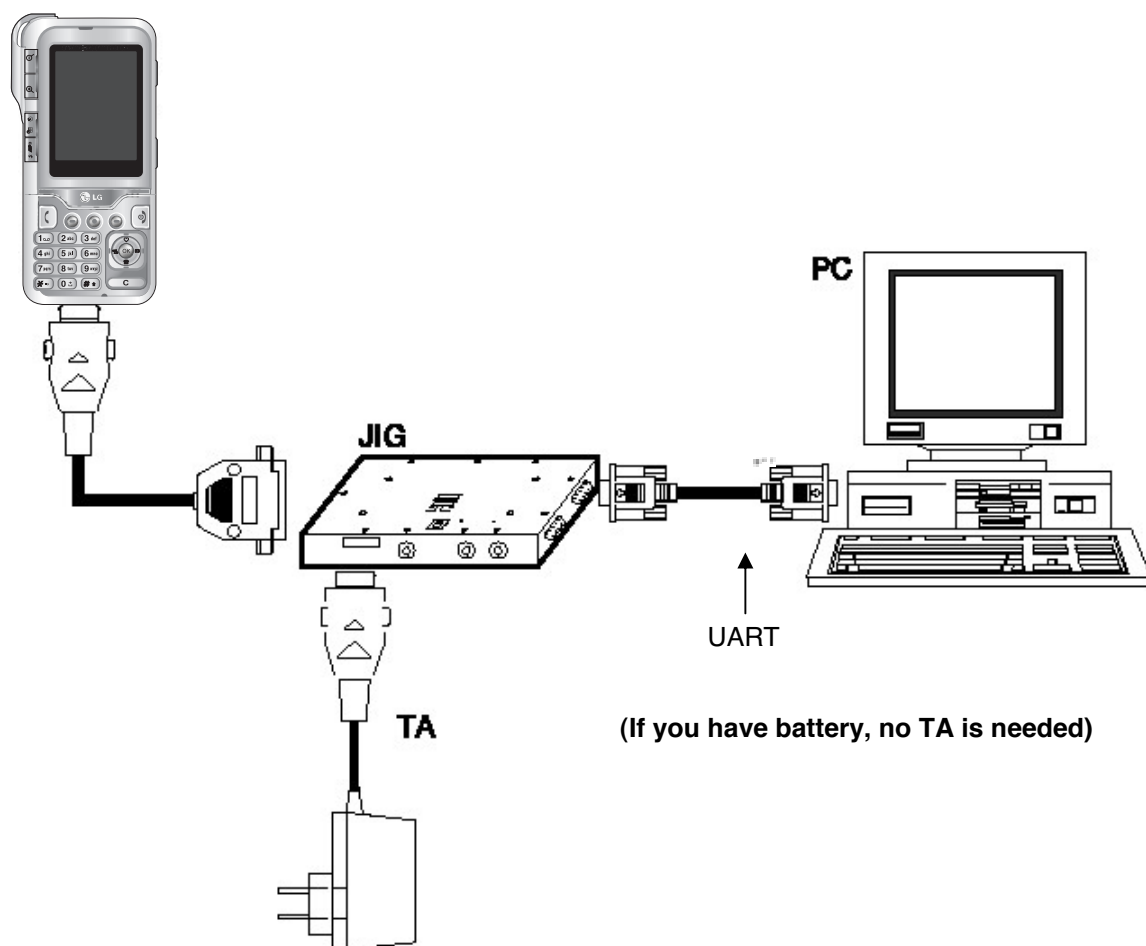


Figure 5-1. Download Setup

5. DOWNLOAD AND CALIBRATION

5.1.1 Download Step [1]

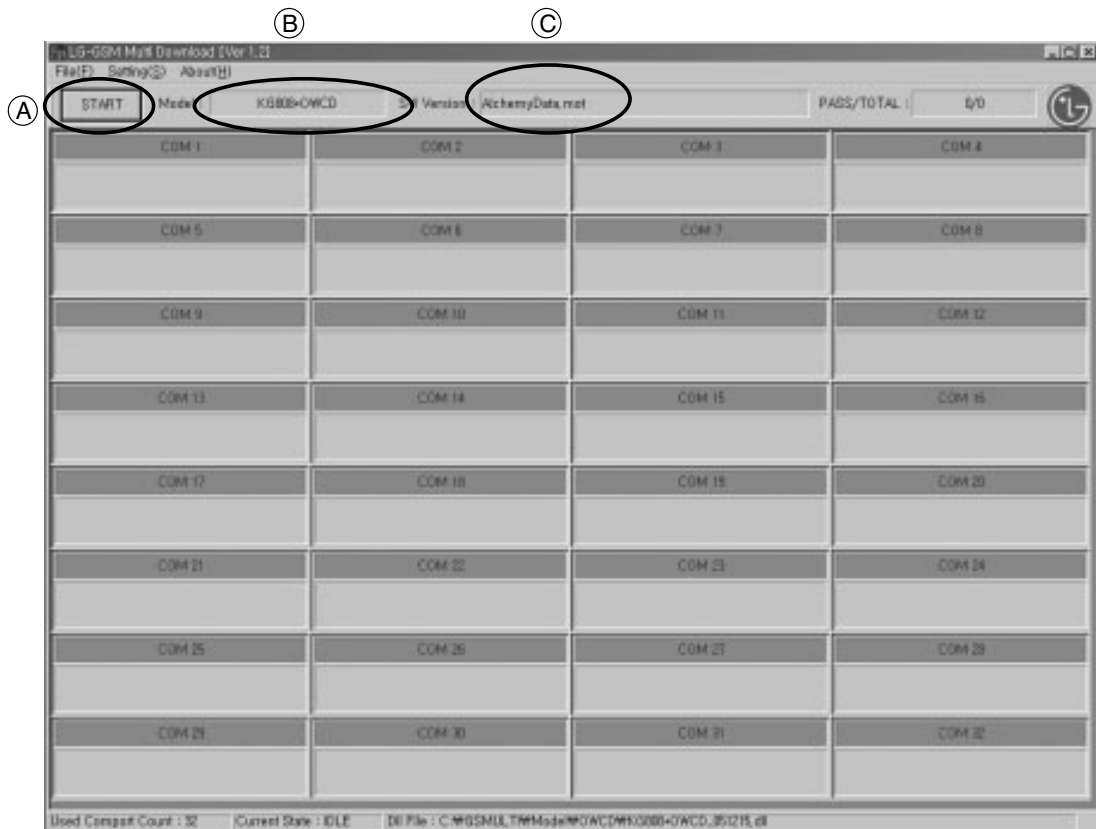


Figure 5-2. Download Program

Ⓐ : Start or Stop download

Ⓑ : Selected configuration DLL file

Ⓒ : File name downloading

File(F) → Exit(X) : End program

Setting(S) → Configuration : configuration download condition DLL, SW files and etc.

About(H) → MultiGSM : Provide version information First, select Setting Menu.

5. DOWNLOAD AND CALIBRATION

5.1.2 Download Step [2]

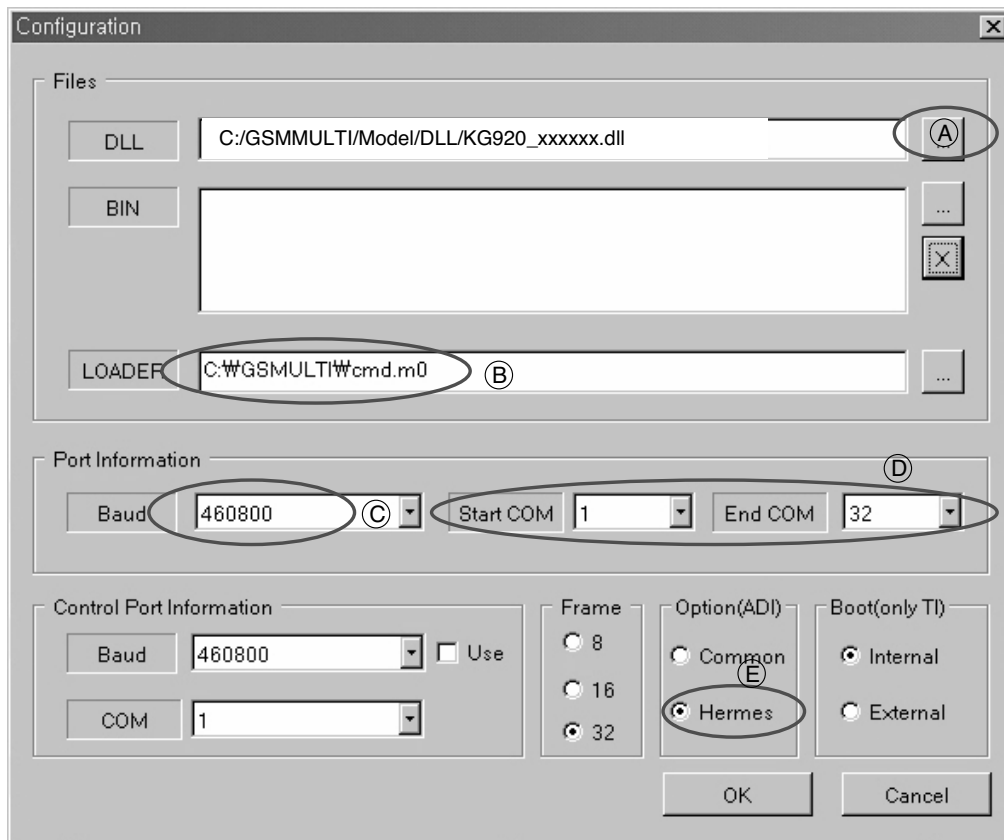


Figure 5-3.

- Ⓐ : Select a appropriate DLL file
Select KG920_xxxxxx.DLL
- Ⓑ : Select configuration file
You must select cmd.m0 file
- Ⓒ : Select download speed
You must 460800. System supports maximum 460800bps.
- Ⓓ : Select port
select ports operated
- Ⓔ : Select DBB
You must Hermes.

5.1.3 Download Step [3]

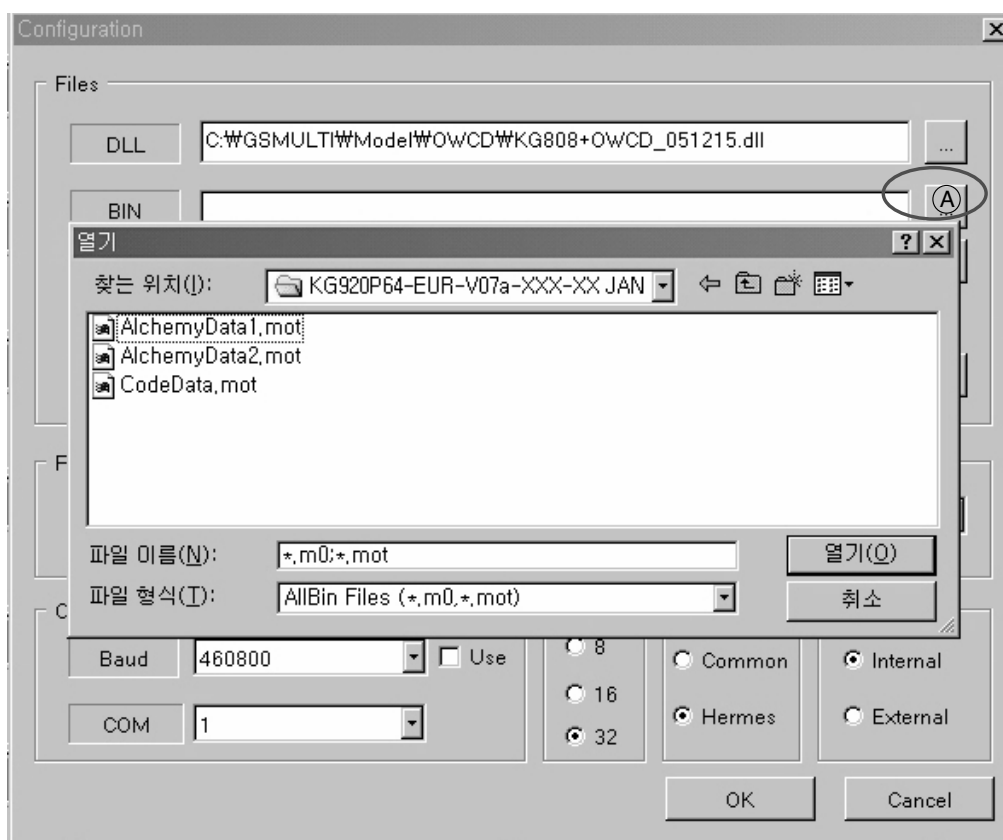


Figure 5-4.

- Ⓐ : Select files downloaded
KG920 has 3 mot files, 1 CodeData and 2 AlchemyData.
Files must be mot files.

5. DOWNLOAD AND CALIBRATION

5.1.4 Download Step [4]



Figure 5-5.

Ⓐ : Start or Stop download next step.

Once download has started, then push Stop button. Otherwise, program will download repeatedly.

Turn on power of multi download and connector phones.

If download is started, then push start button else program will download repeatedly

5. DOWNLOAD AND CALIBRATION

5.1.5 Download Step [5]

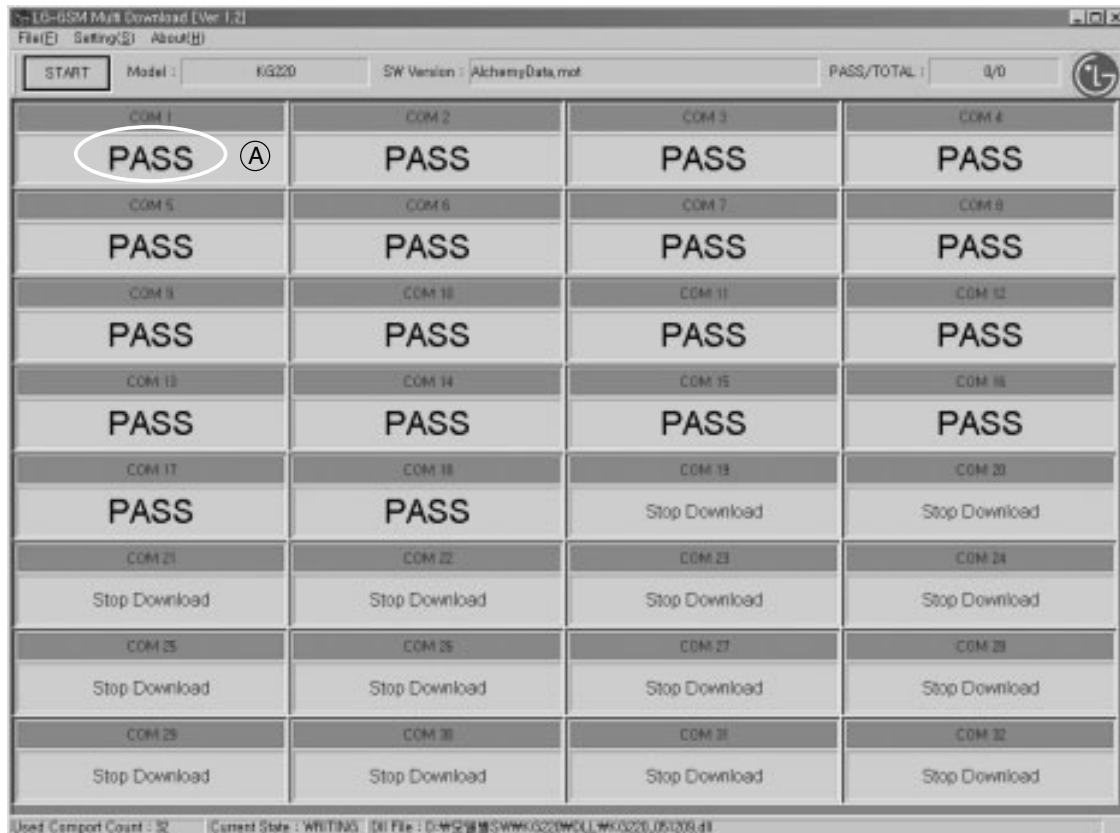


Figure 5-6.

- Ⓐ : This region shows download status
If download is succeeded, PASS else FAIL.

5. DOWNLOAD AND CALIBRATION

5.2 Calibration

A. Equipment List

Table 5-1. Calibration Equipment List.

Equipment for Calibration	Type / Model	Brand
Wireless Communication Test Set	HP-8960	Agilent
RS-232 Cable and Test JIG		LG
RF Cable		LG
Power Supply	HP-66311B	Agilent
GPIO interface card	HP-GPIB	Agilent
Calibration & Final test software		LG
Test SIM Card		
PC (for Software Installation)	Pentium II class above 300MHz	

B. Equipment Setup

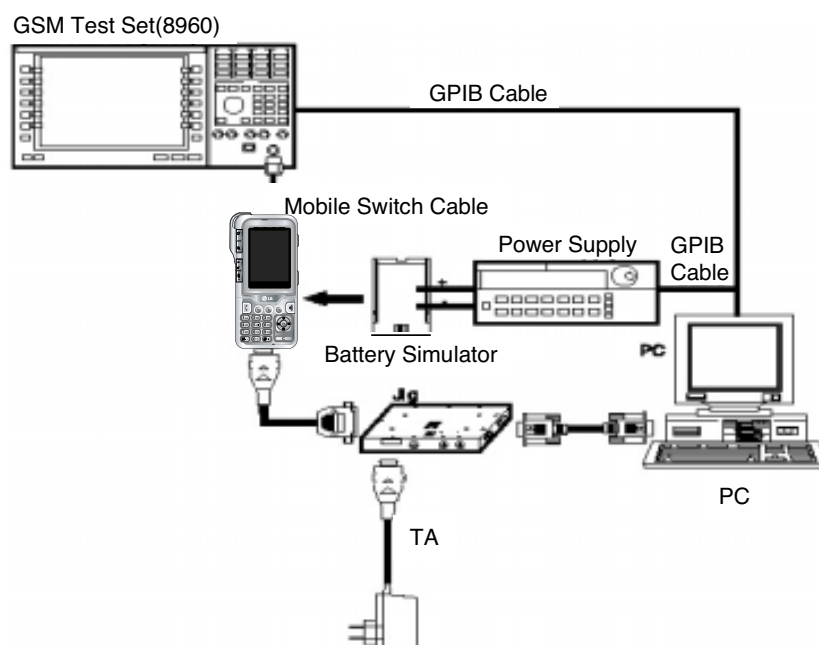


Figure 5-7. Equipment Setup

5. DOWNLOAD AND CALIBRATION

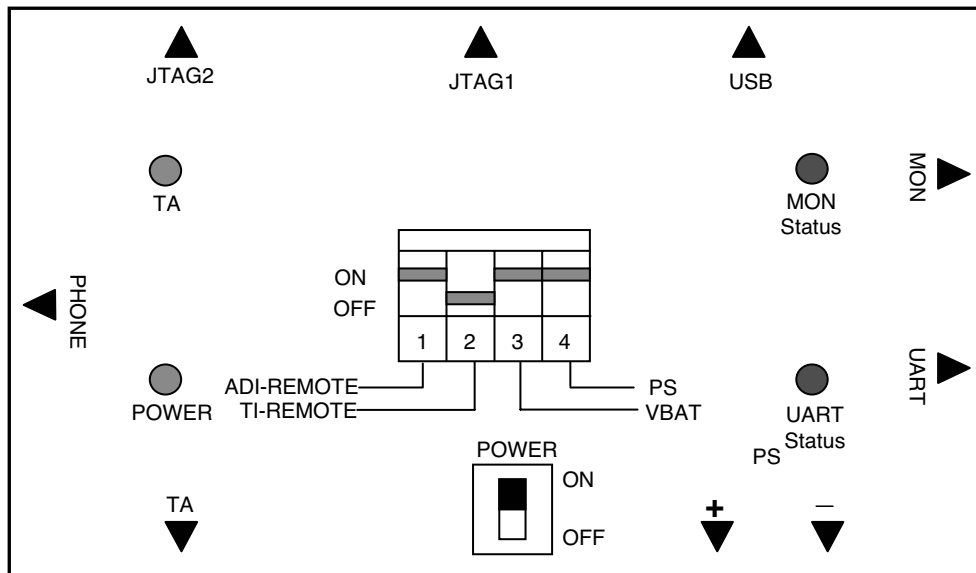


Figure 5-8 The top view of Test JIG

C. Test Jig Operation

Table 5-2. Jig Power

Power Source	Description
Power Supply	Usually 4.0V
Travel Adaptor	Use TA, name is TA-20G(24pin)

Table 5-3. Jig DIP Switch

Switch Number	Name	Description
Switch 1	ADI-REMOTE	In ON state, phone is awaked. It is used ADI chipset.
Switch 2	TI-REMOTE	In ON state, phone is awaked. It is used TI chipset.
Switch 3	VBAT	Power is provided for phone from battery
Switch 4	PS	Power is provided for phone from Power supply

5. DOWNLOAD AND CALIBRATION

Table 5-4. LED Description

LED Number	Name	Description
LED 1	Power	Power is provided for Test Jig
LED 2	TA	Indicate charging state of the phone battery
LED 3	UART	Indicate data transfer state through the UART port
LED 4	MON	Indicate data transfer state through the MON port

1. Connect as Fig 5-7(RS232 serial cable is connected between COM port of PC and MON port of TEST JIG, in general)
2. Set the Power Supply 4.0V
3. Set the 3rd, 4th of DIP SW ON state always
4. Press the Phone power key, if the Remote ON is used, 1st ON state

D. Procedure

1. Connect as Fig 5-7(RS232 serial cable is connected between COM port of PC and MON port of TEST JIG, in general)
2. Power on PC and enter into Windows 98(Remark: Windows 2000 system could be feasible)
3. Run HotKimchi.exe, the AUTOCAL application window will be appear.

5. DOWNLOAD AND CALIBRATION

5.2.1 Calibration Step[1]



Figure 5-9.

- ① : Selection Model
- ② : Apply model configuraion
- ③ : Start calibration

5. DOWNLOAD AND CALIBRATION

5.2.2 Calibration Step[2]

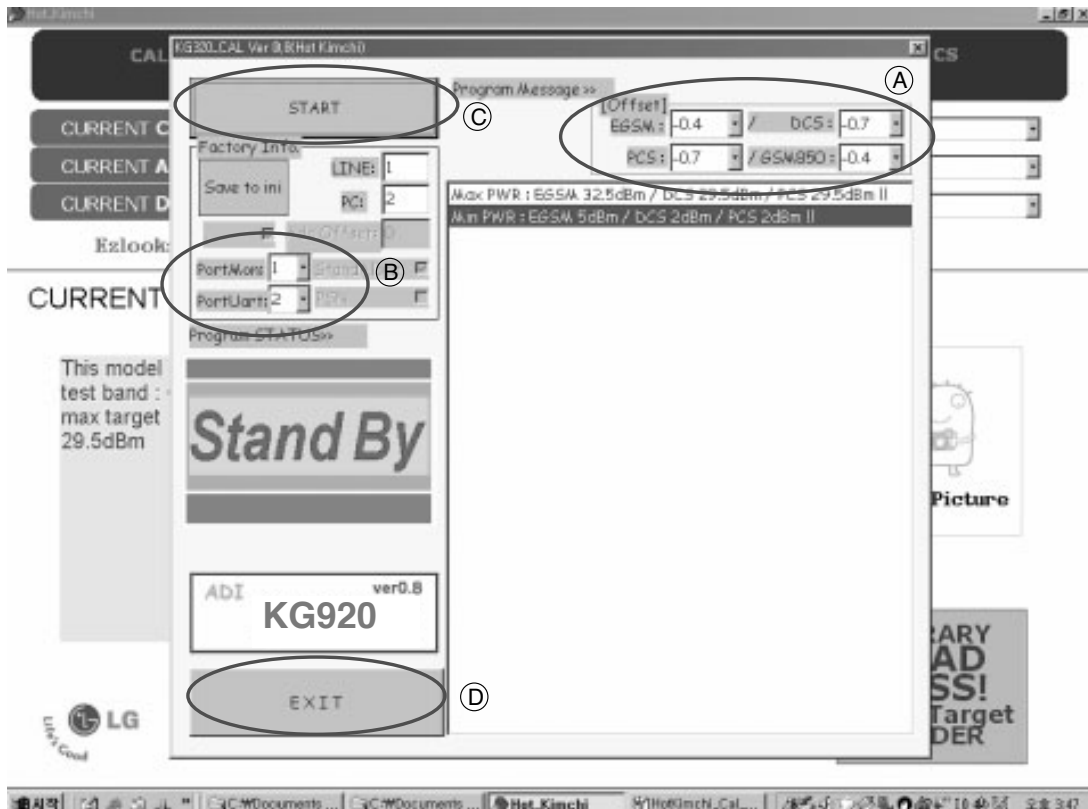


Figure 5-10.

- Ⓐ : Selection RF cable loss
- Ⓑ : Selection COM port(Use Uart port for calibration)
- Ⓒ : Start calibration
- Ⓓ : Exit program

5. DOWNLOAD AND CALIBRATION

5.2.3 Calibration Step[3]

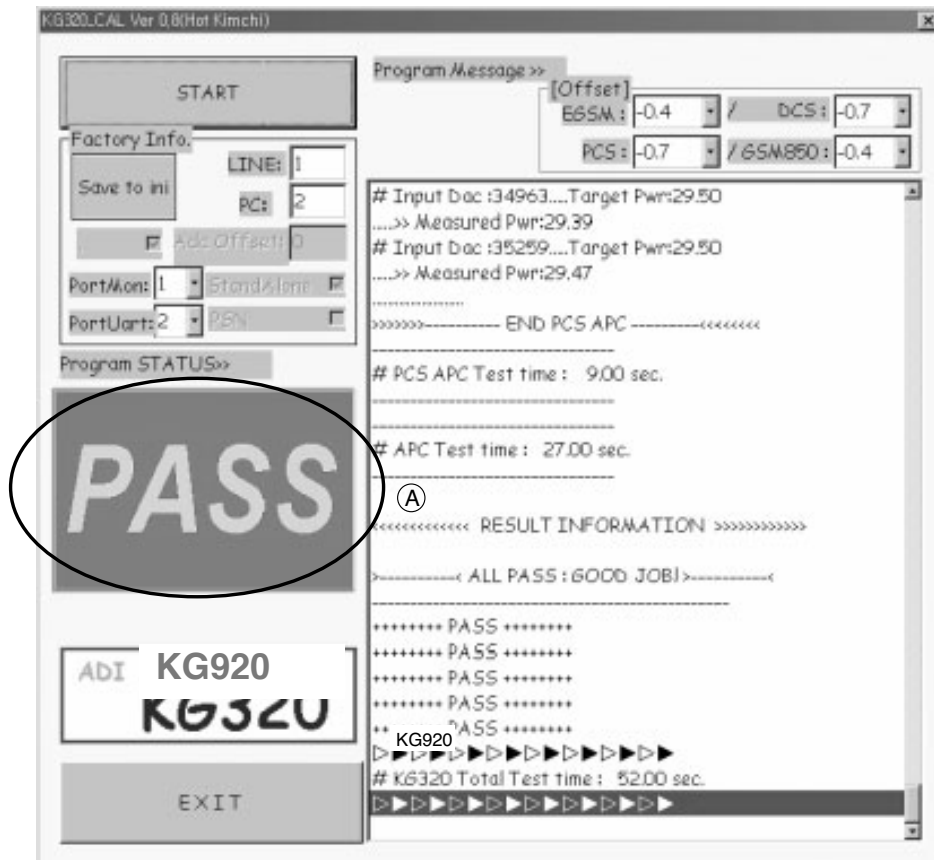


Figure 5-11.

Ⓐ : Shows calibration status, if calibration successes, shows PASS else FAIL.

6. BLOCK DIAGRAM

6. BLOCK DIAGRAM

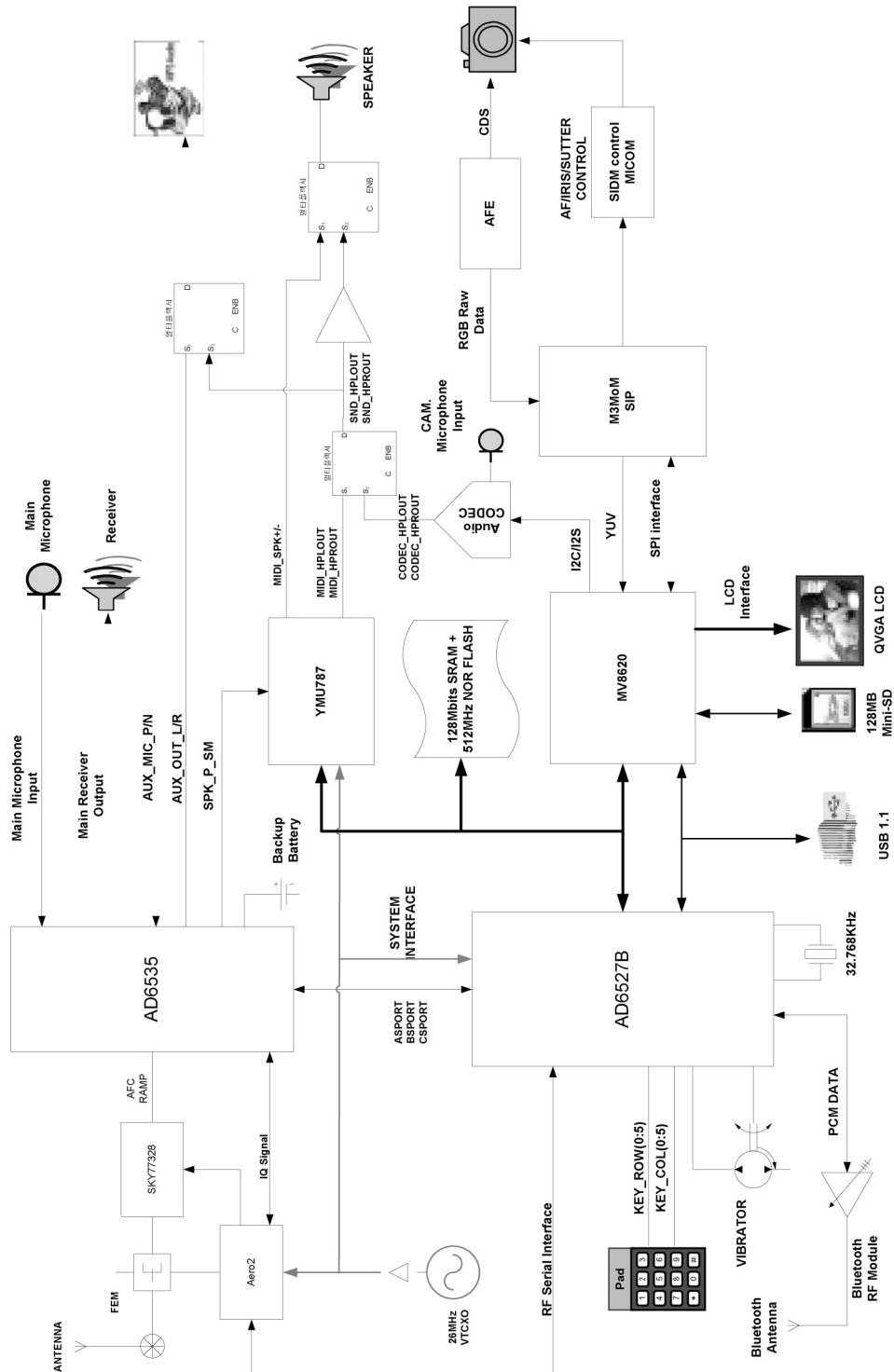
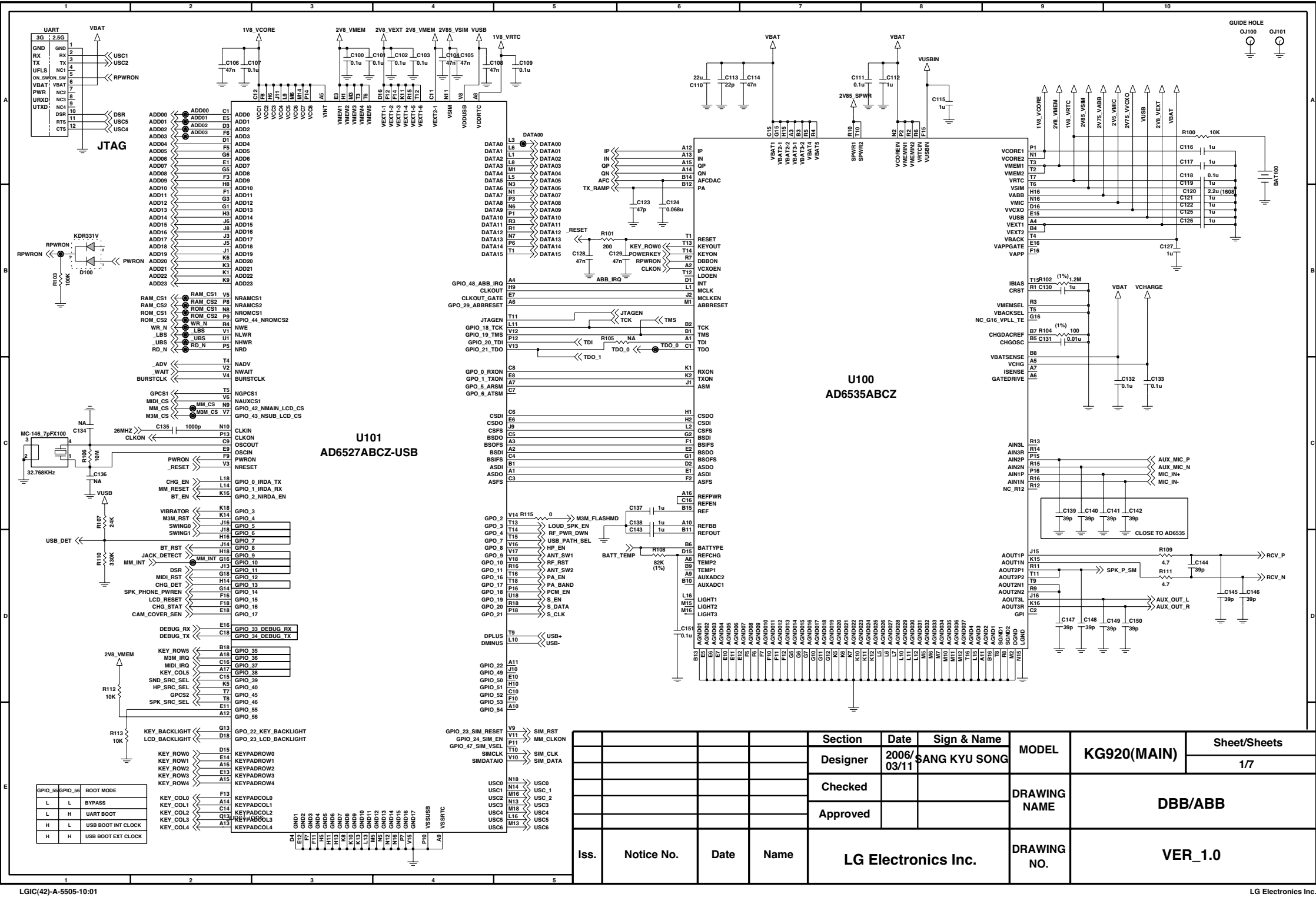
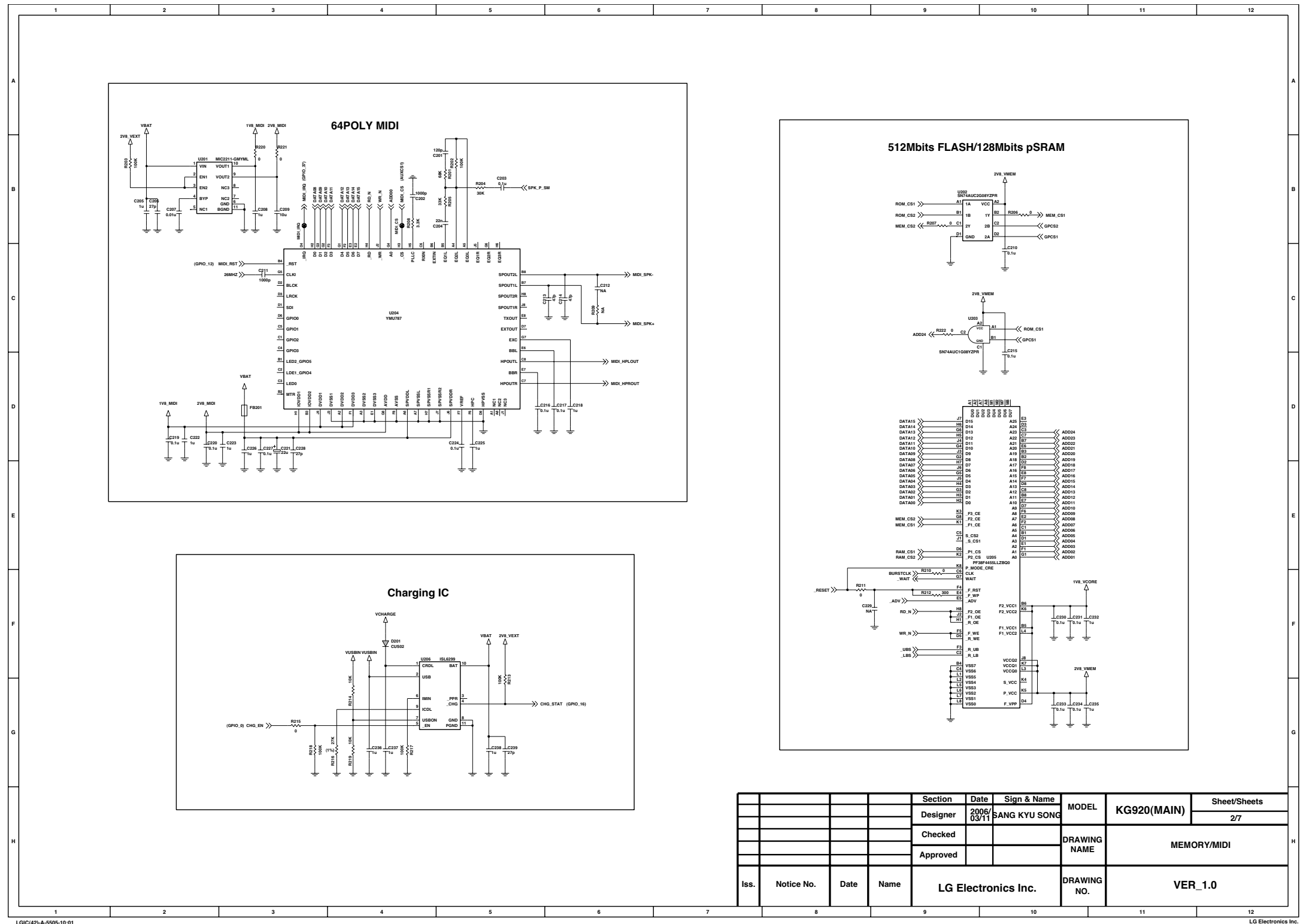


Figure 6-1.

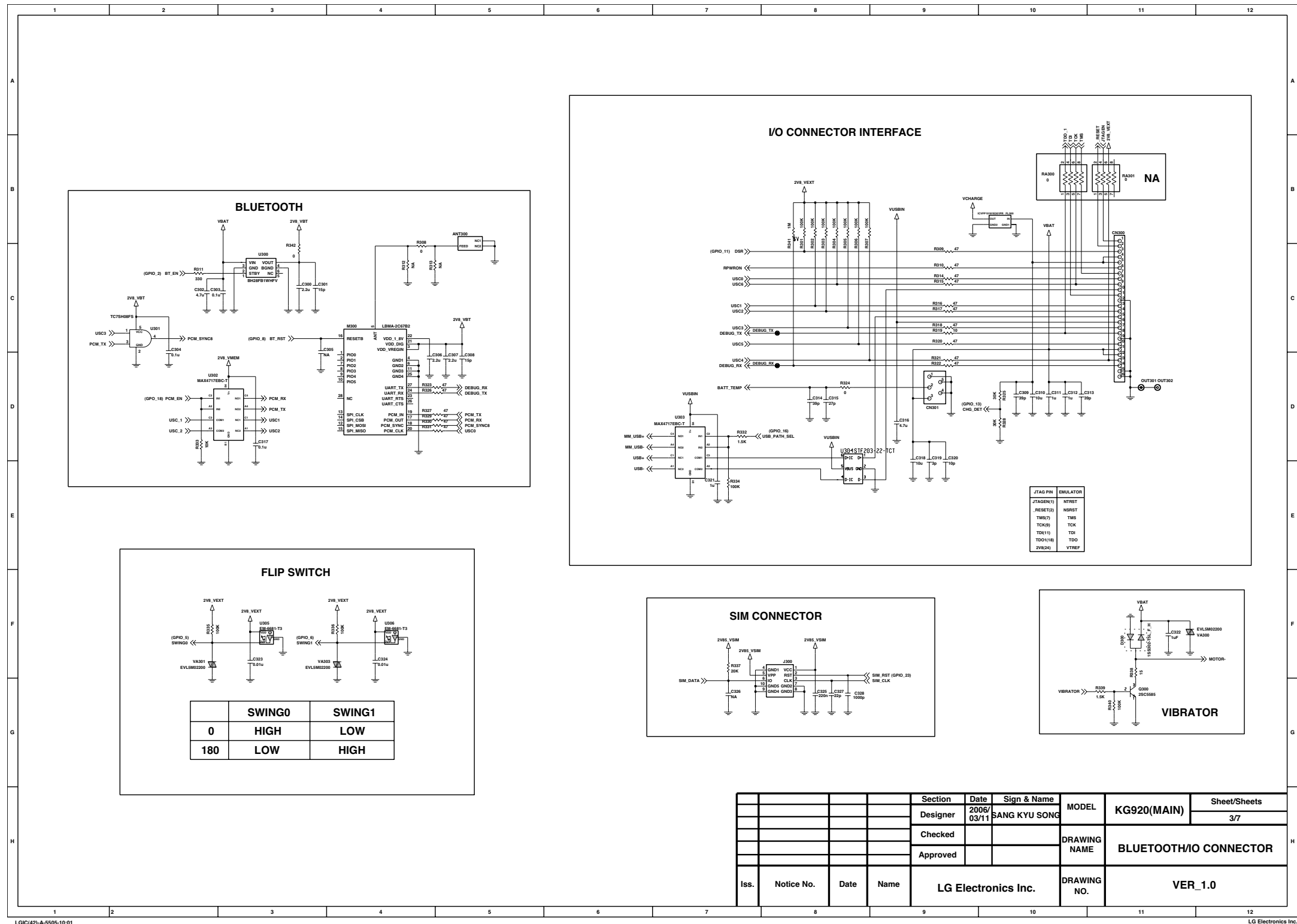
7. CIRCUIT DIAGRAM



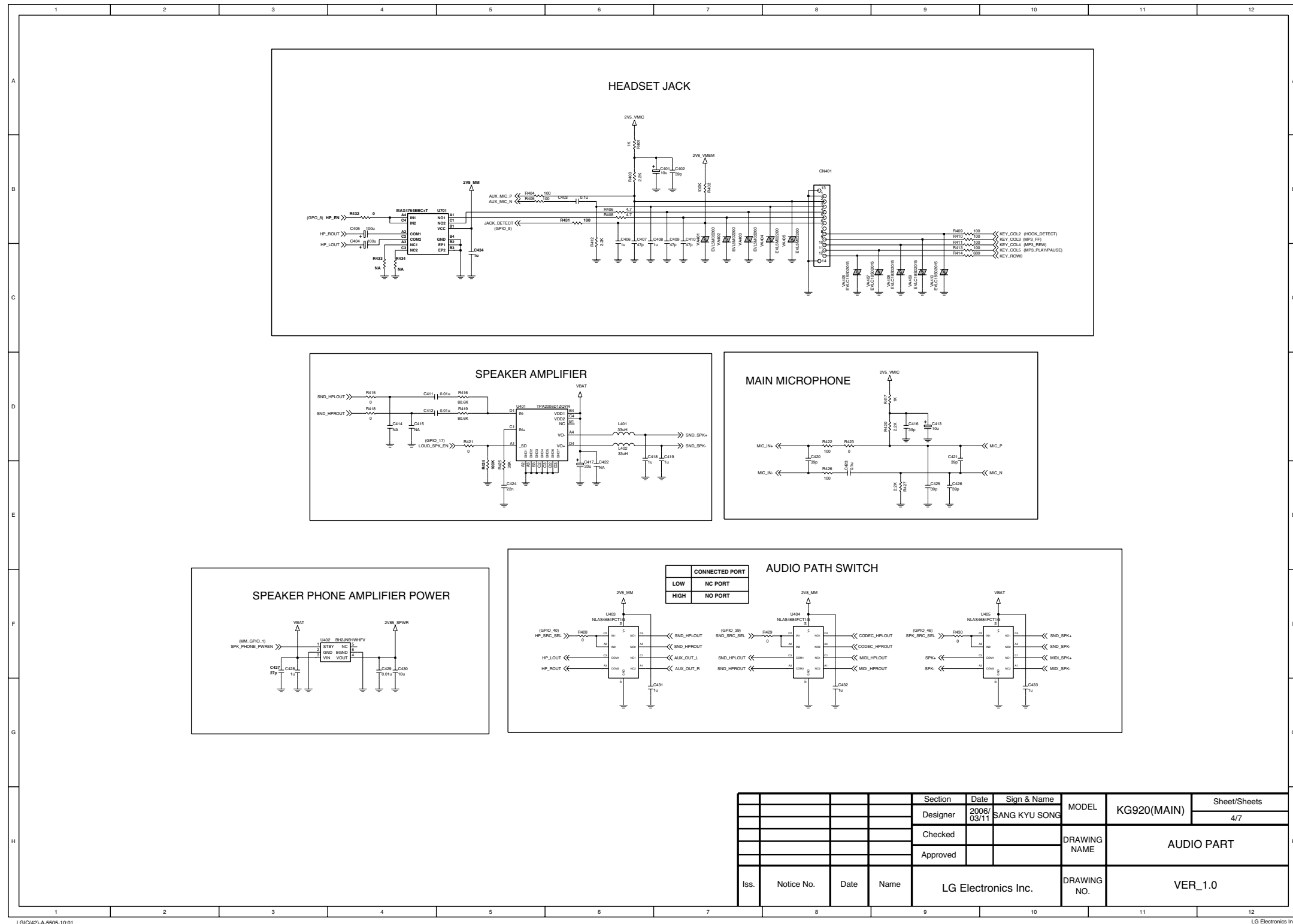
7. CIRCUIT DIAGRAM



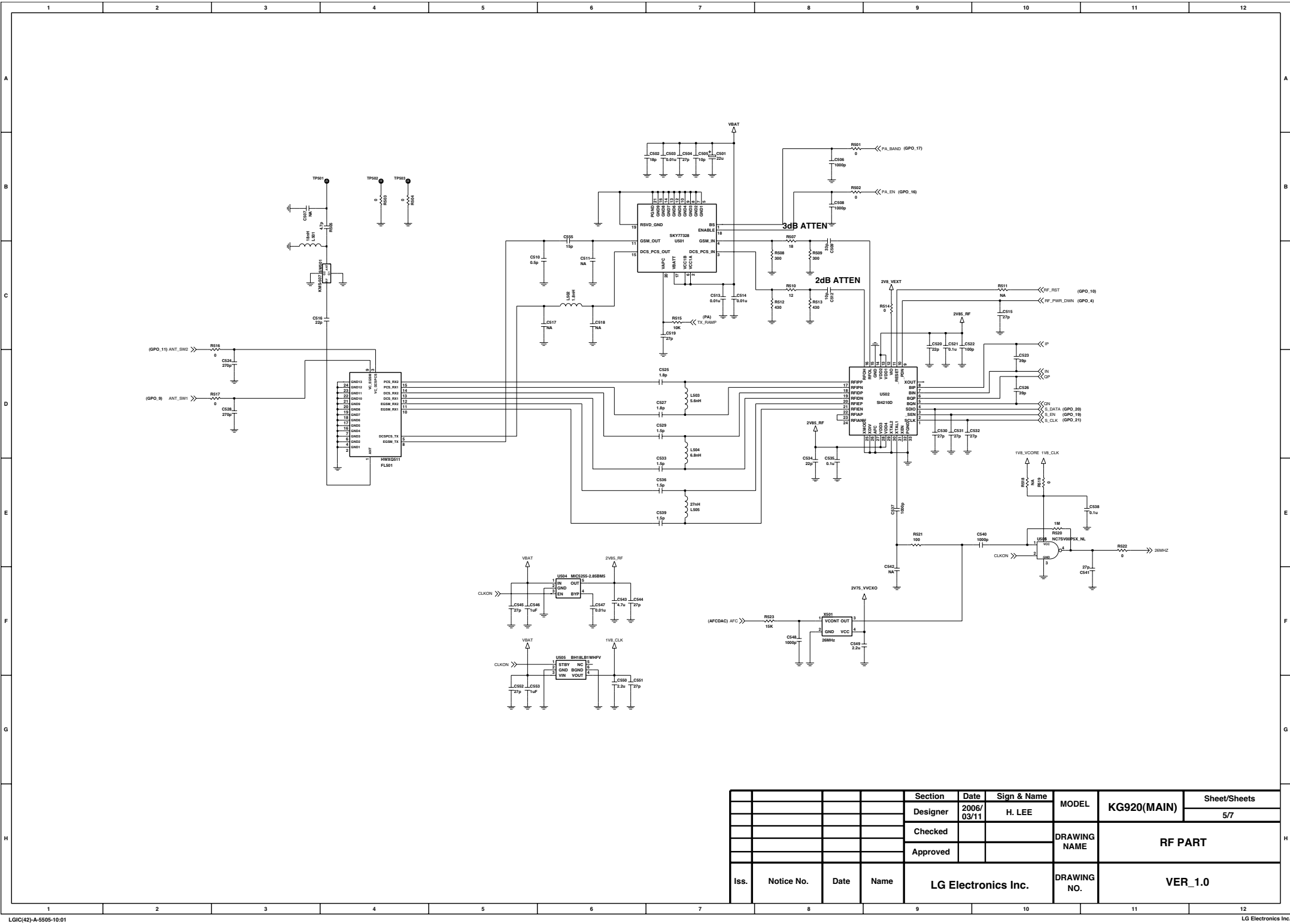
7. CIRCUIT DIAGRAM



7. CIRCUIT DIAGRAM



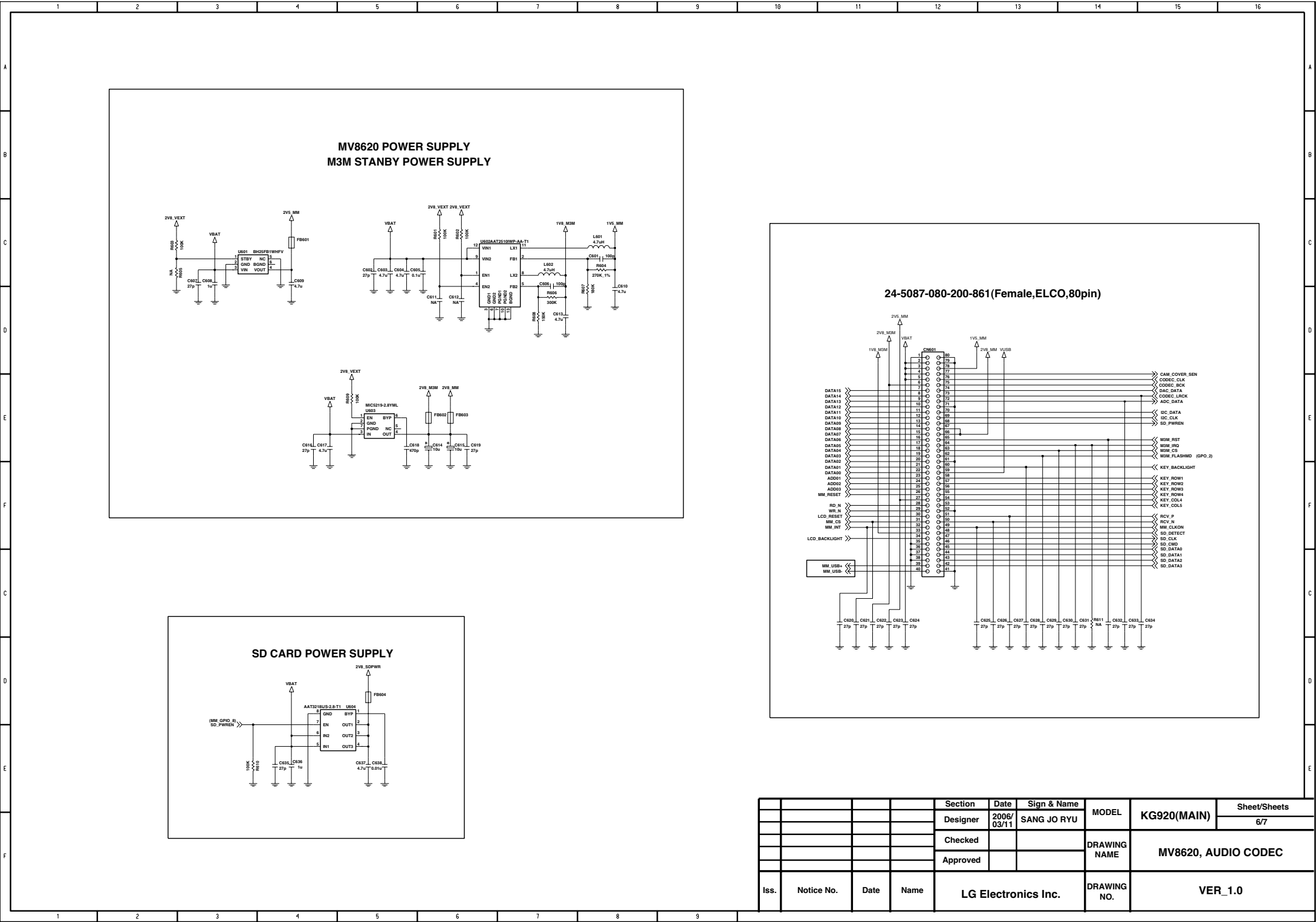
7. CIRCUIT DIAGRAM



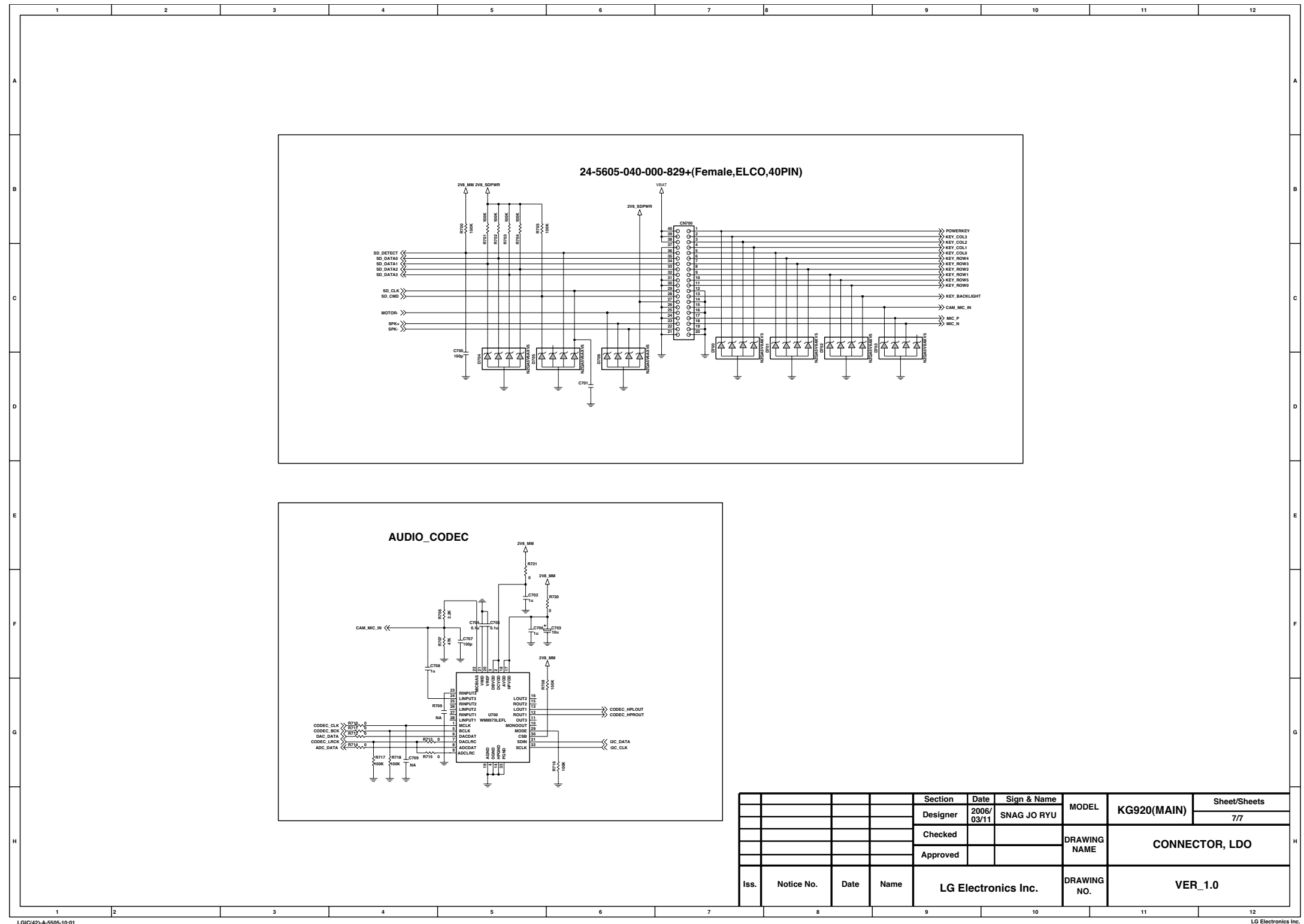
LGIC(42)-A-5505-10-01

LG Electronics Inc.

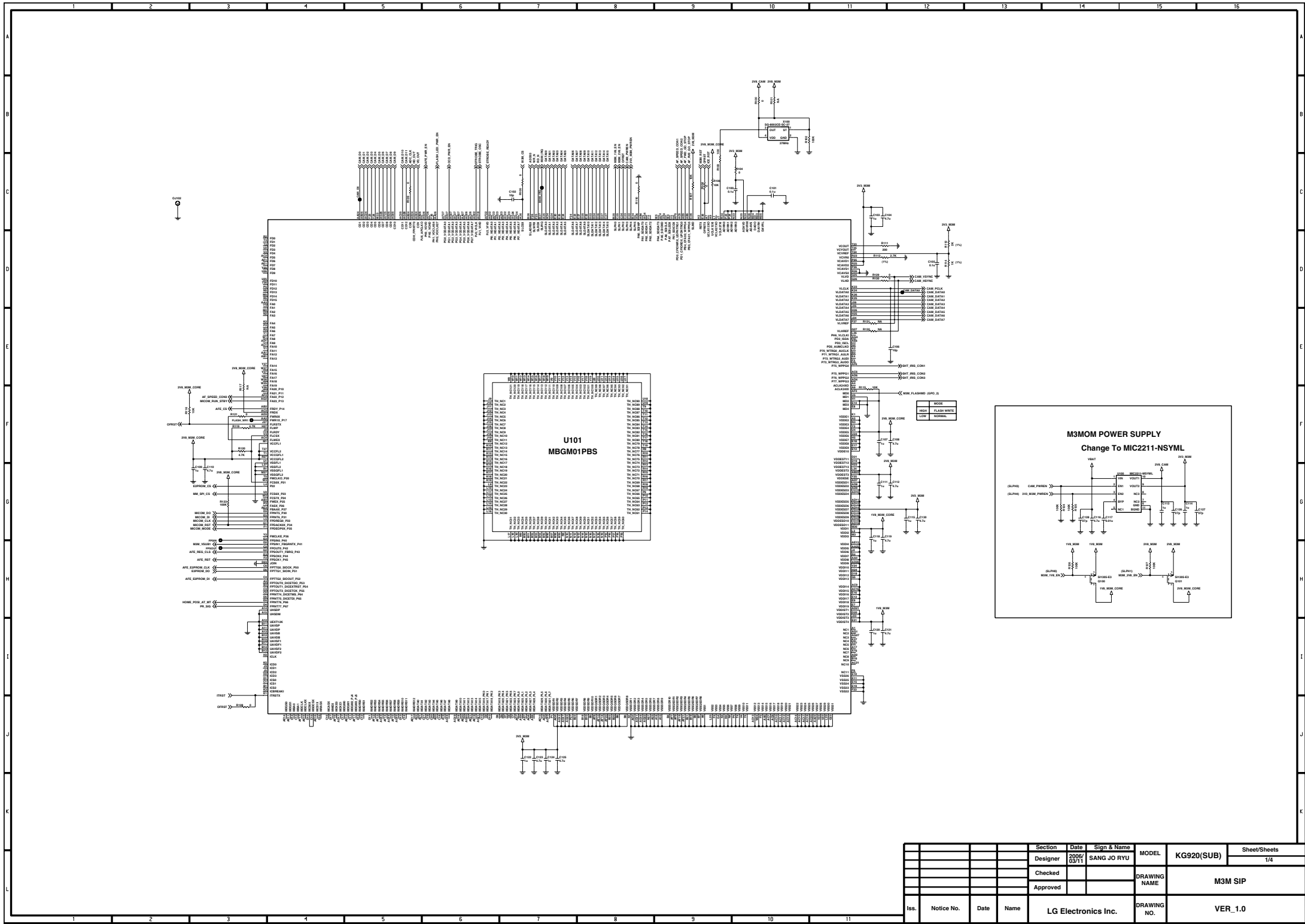
7. CIRCUIT DIAGRAM



7. CIRCUIT DIAGRAM

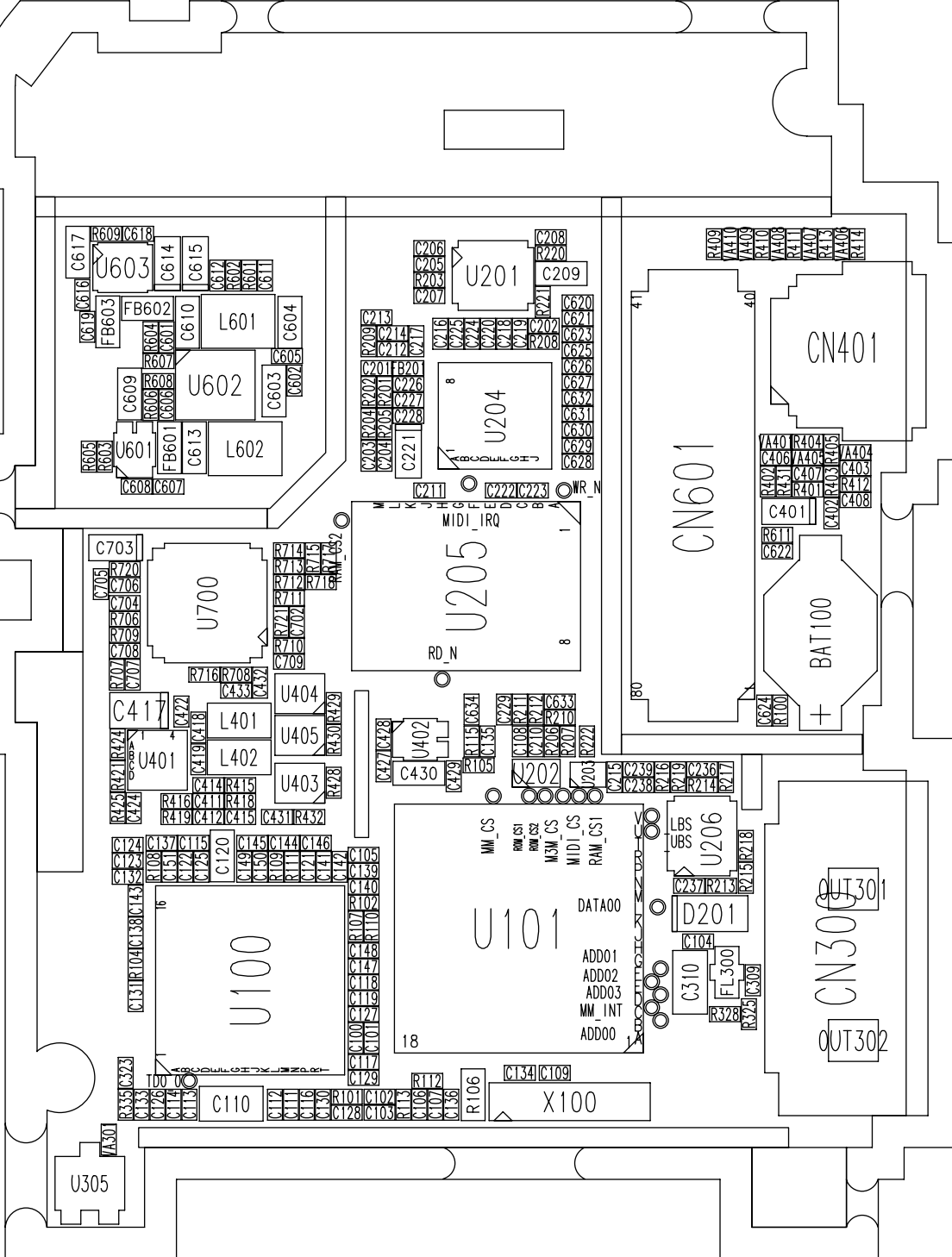


7. CIRCUIT DIAGRAM



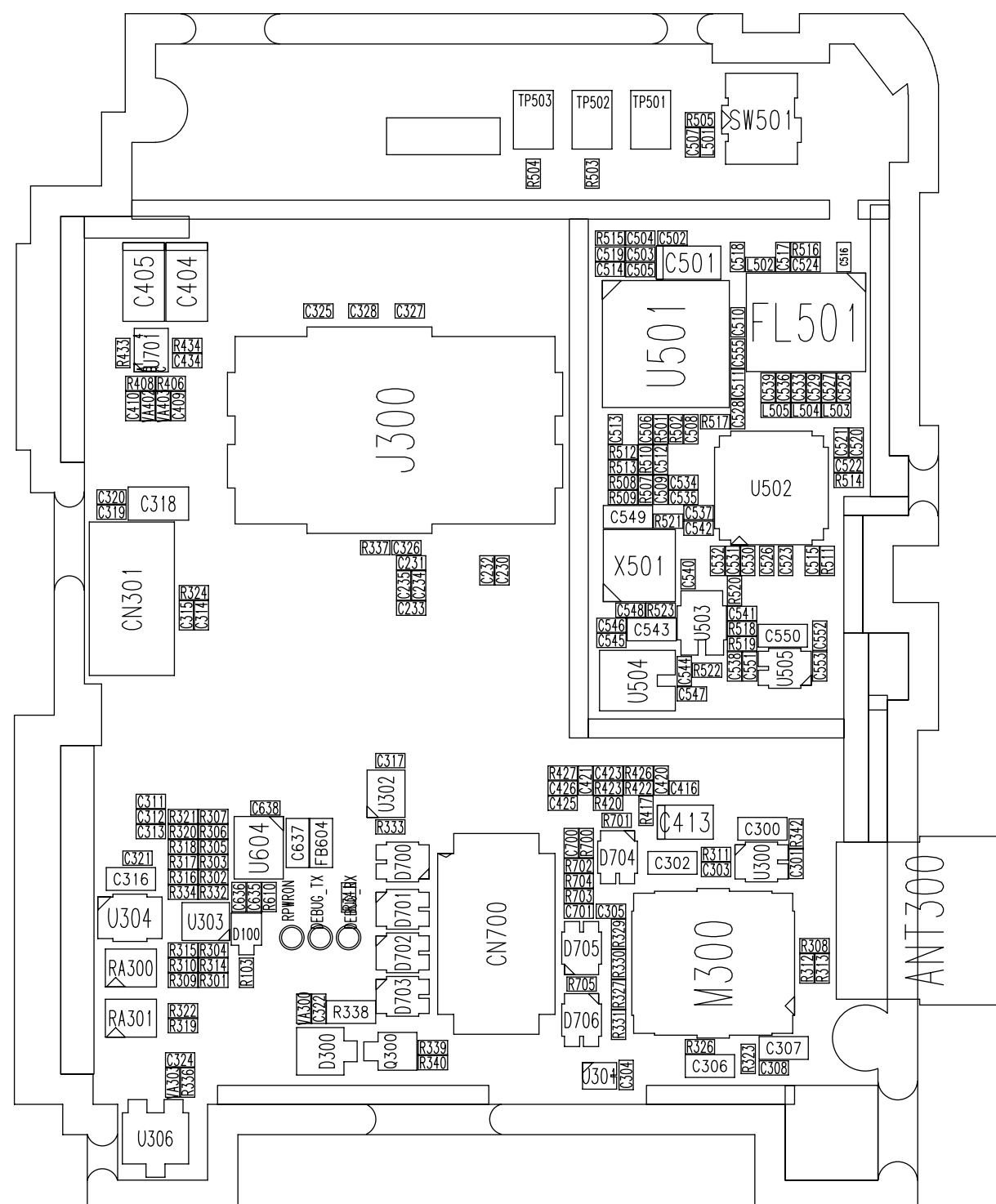
Section		Date	Sign & Name	MODEL	KG920(SUB)	Sheet/Sheets
Designer		2009/03/11	SANG JO RYU			1/4
Checked				DRAWING NAME	M3M SIP	
Approved				DRAWING NO.	VER_1.0	
Iss.	Notice No.	Date	Name	LG Electronics Inc.		

8. PCB LAYOUT



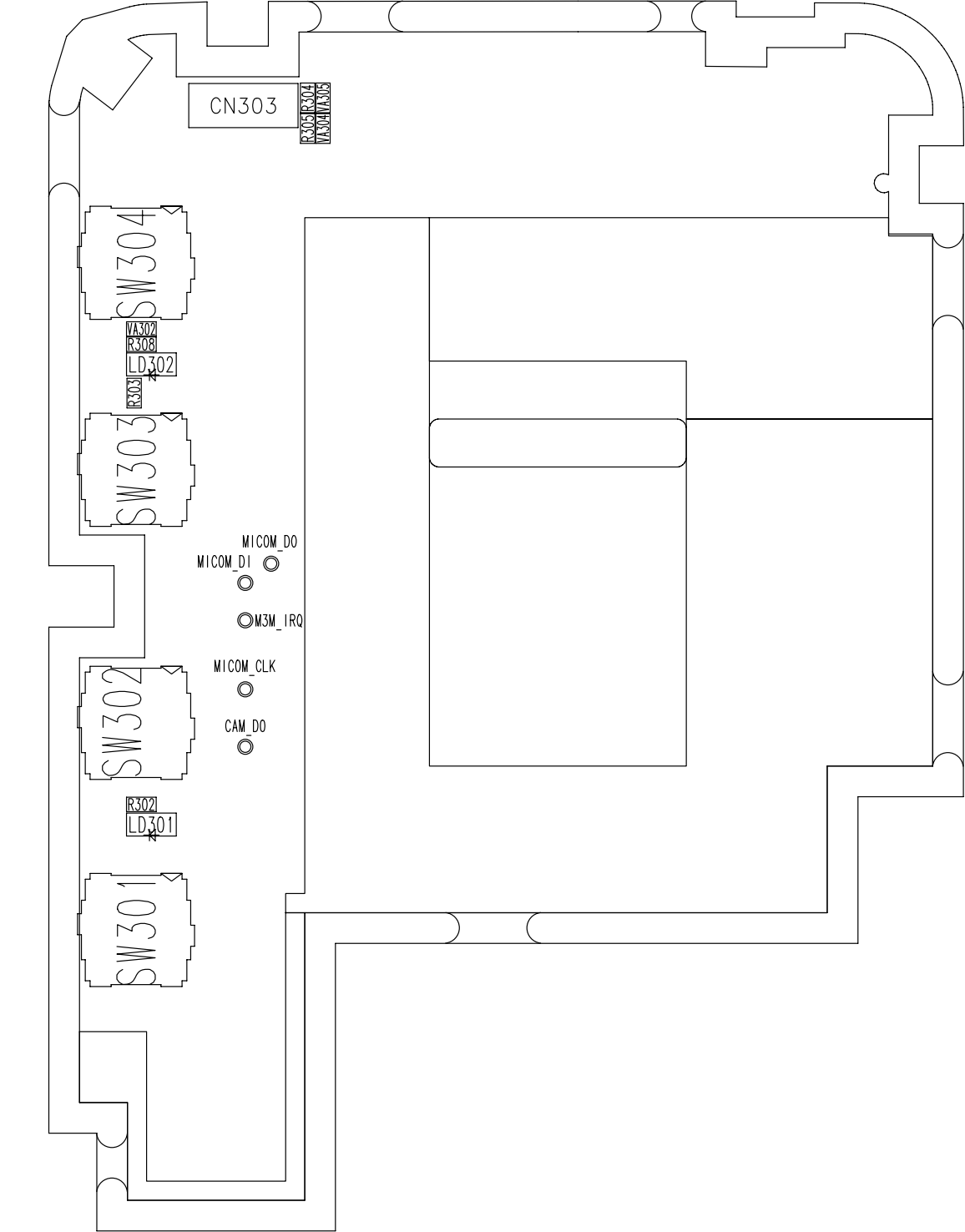
KG920 MAIN-1.0-TOP

8. PCB LAYOUT



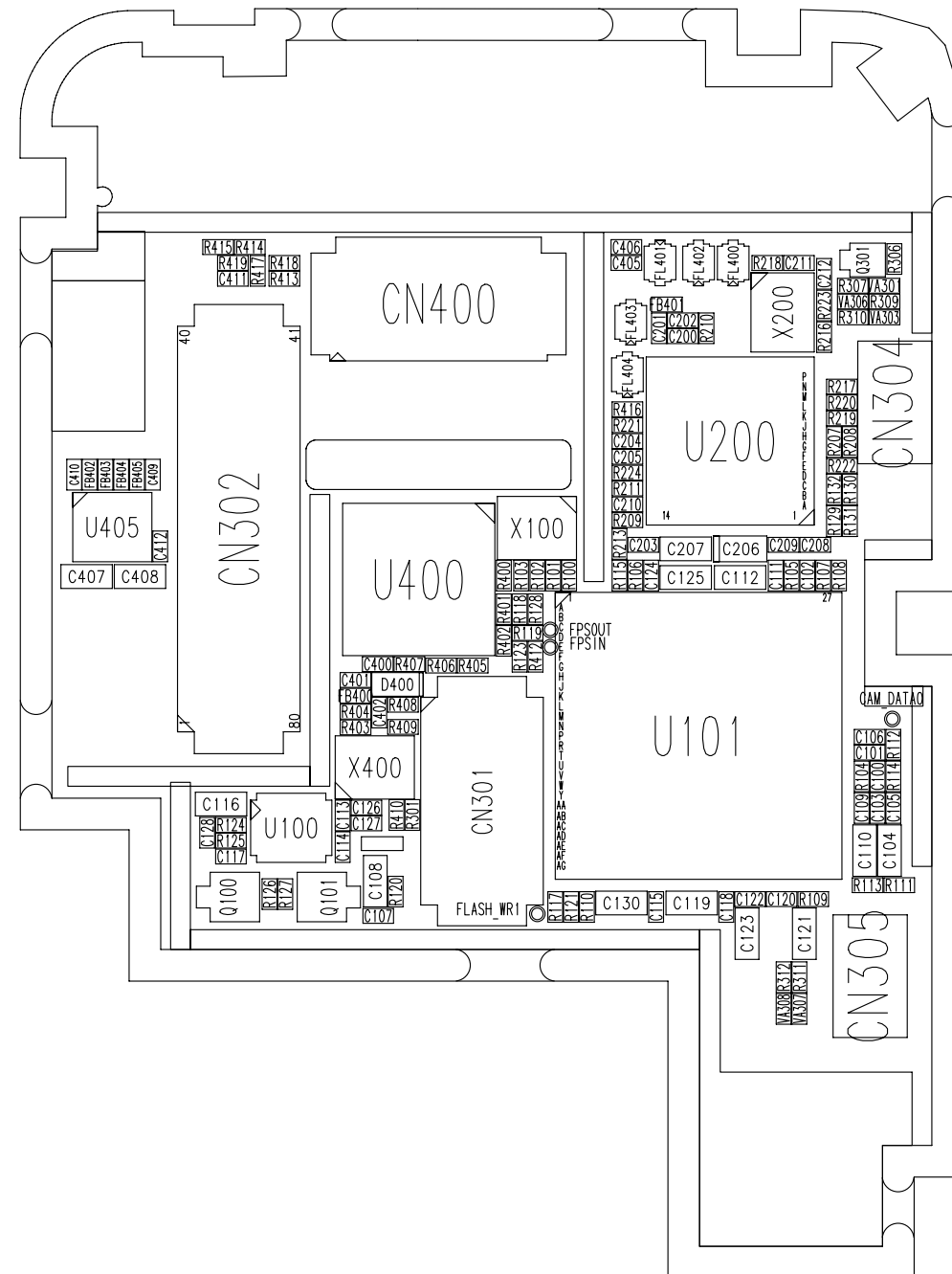
KG920 MAIN-1.0-BOTTOM

8. PCB LAYOUT



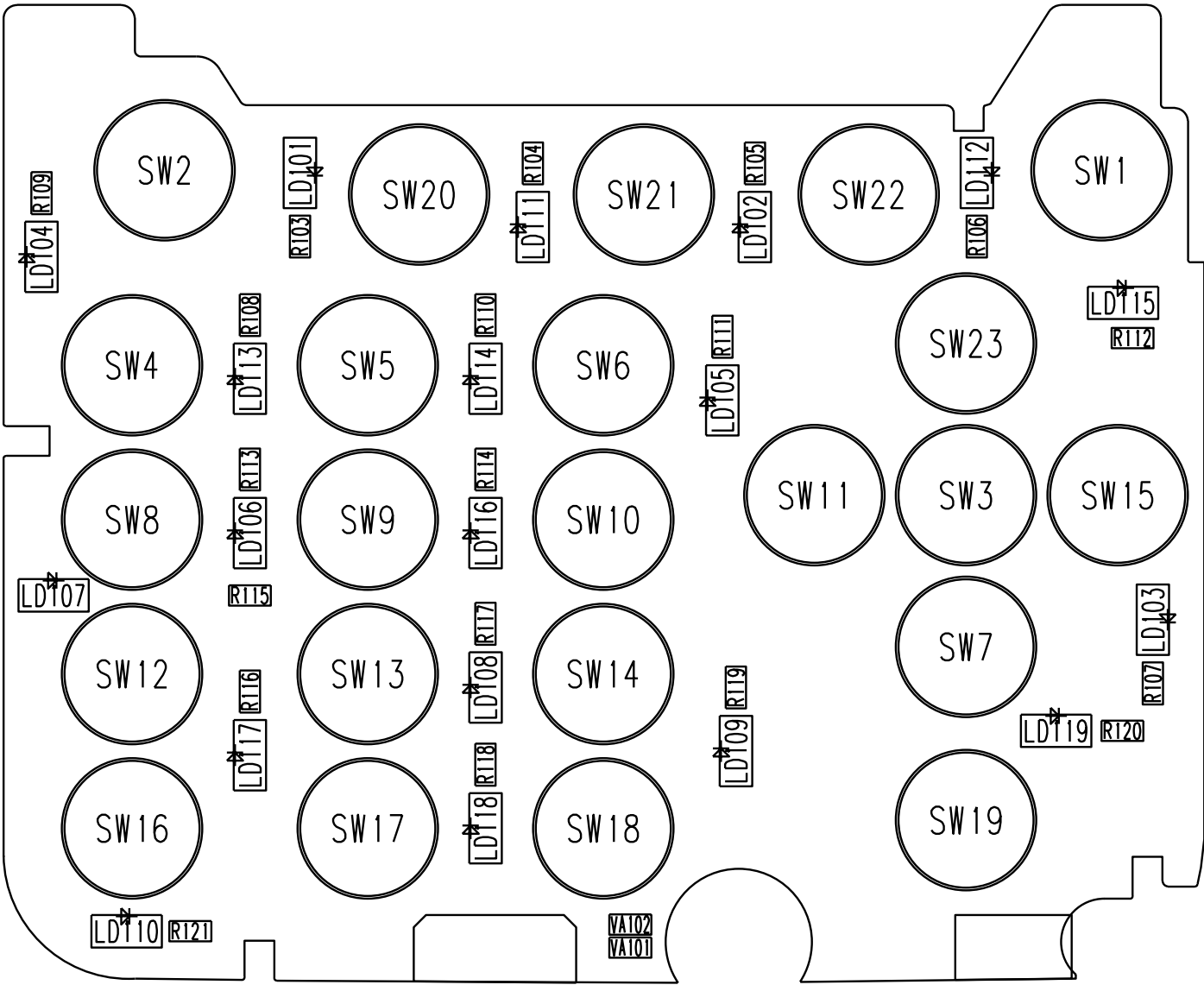
KG920-SPJY0024701-1.0-T0P

8. PCB LAYOUT



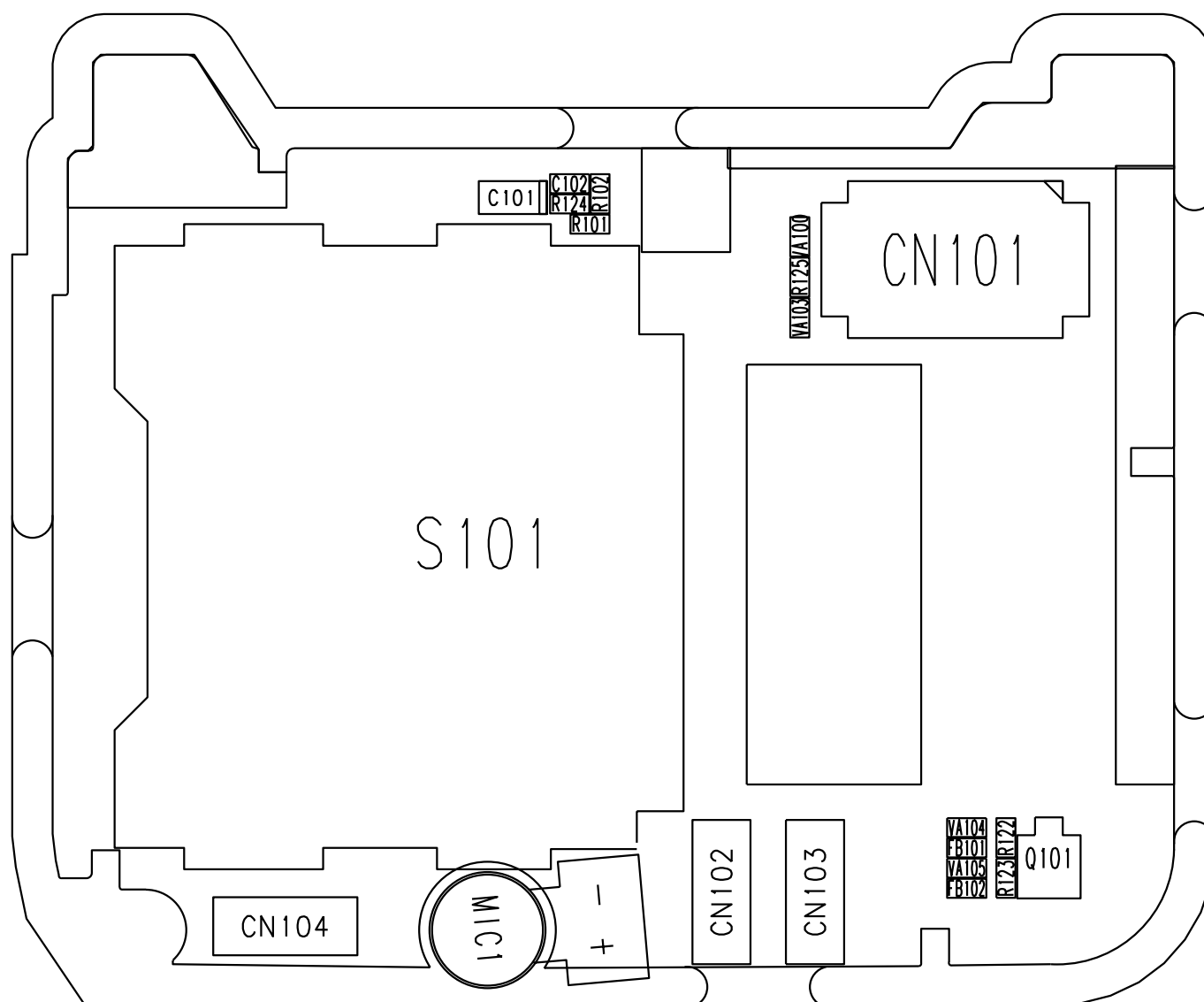
KG920-SPJY0024701-1.0-BTM

8. PCB LAYOUT



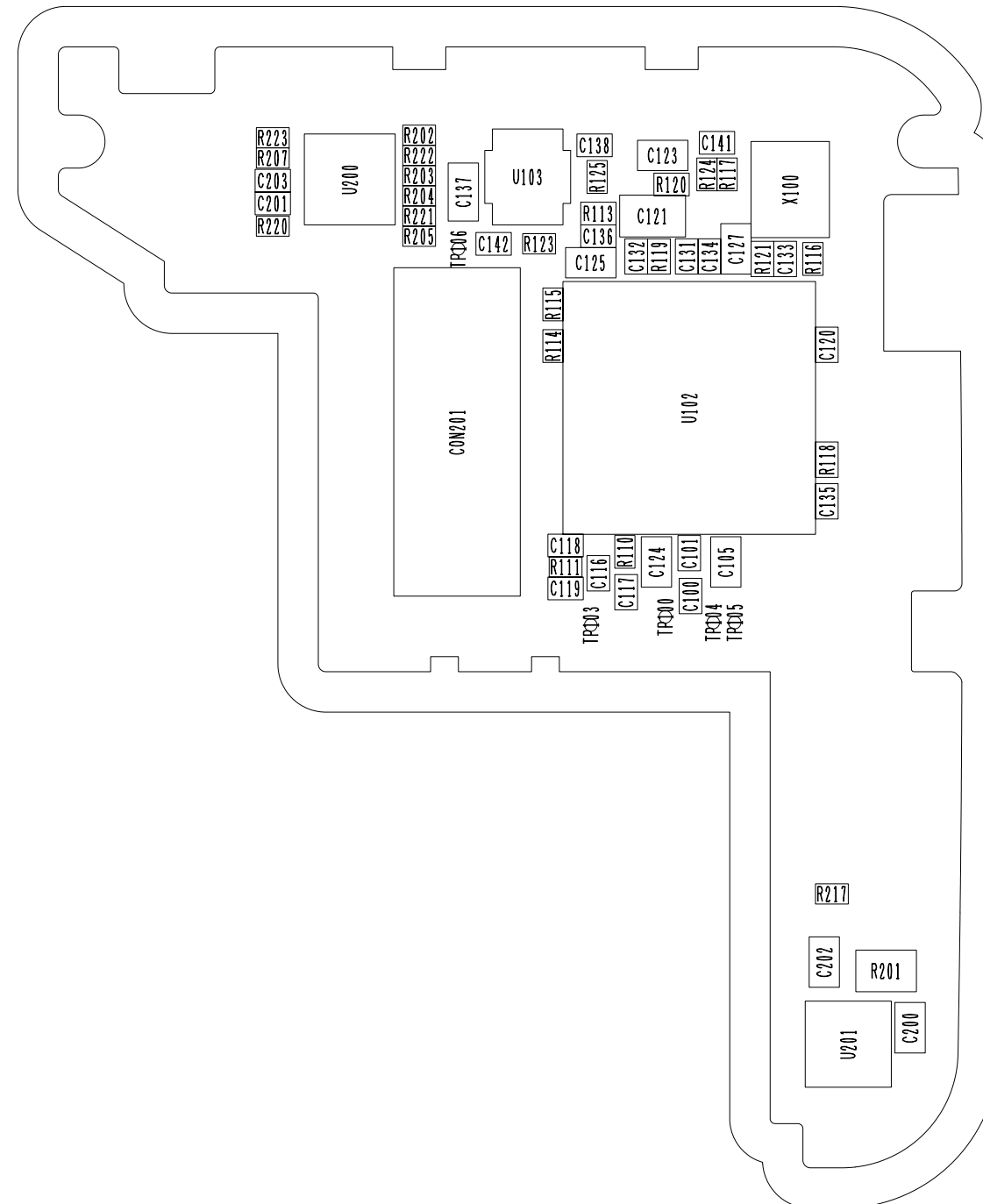
KG920-SPEY0041201-KEY-1.0-TOP

8. PCB LAYOUT

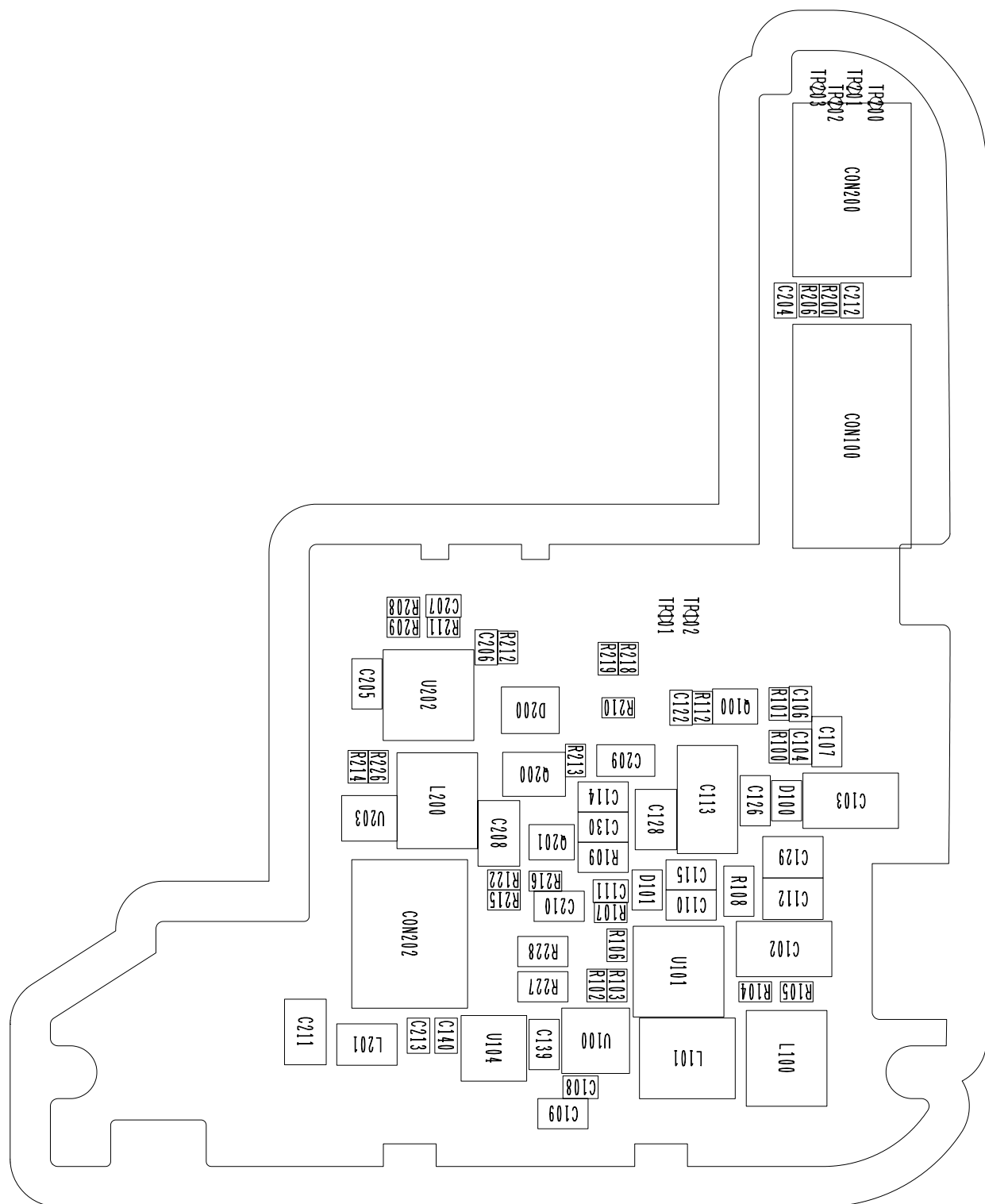


KG920-SPEY0041201-KEY-1.0-BTM

8. PCB LAYOUT



8. PCB LAYOUT



9. ENGINEERING MODE

9.1 About Engineering Mode

Engineering mode is designed to allow a service man/engineer to view and test the basic functions provided by a handset.

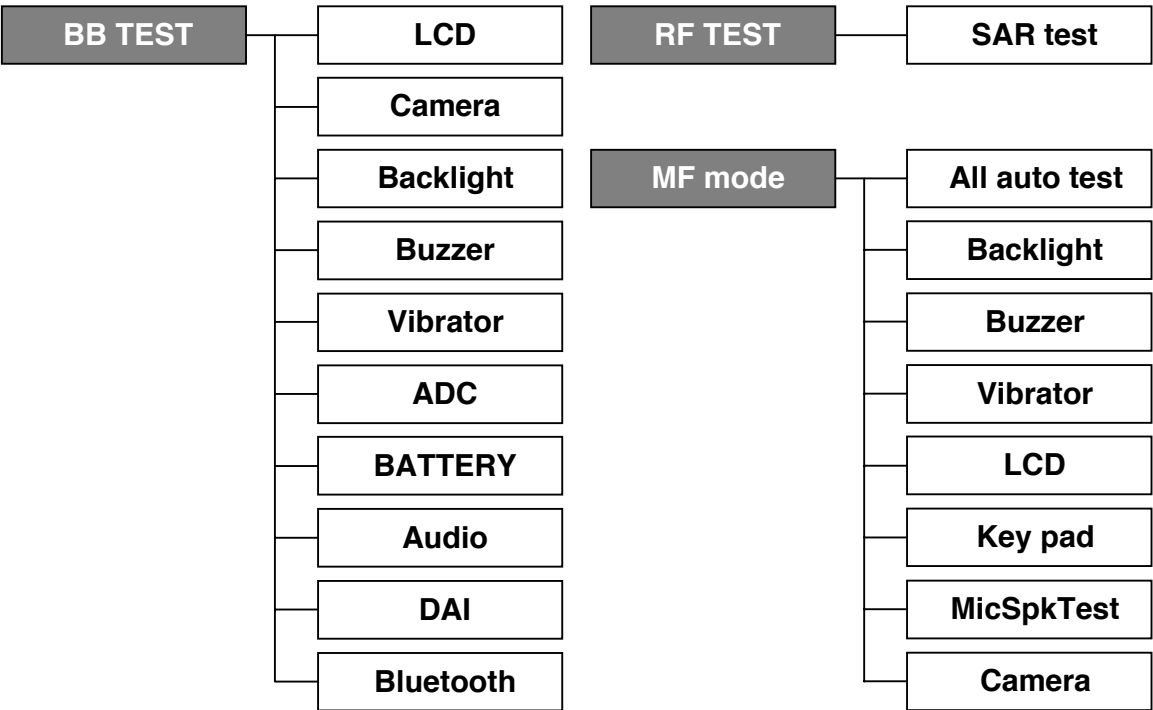
9.2 Access Codes

The key sequence for switching the engineering mode on is 2945##. Pressing END will switch back to non-engineering mode operation.

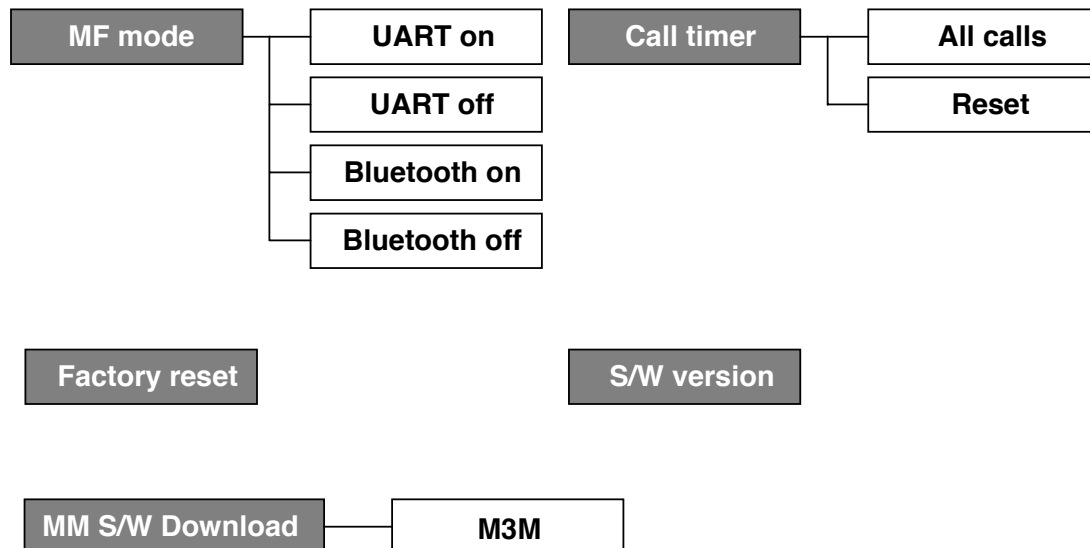
9.3 Key Operation

Use Up and Down key to select a menu and press 'select' key to progress the test. Pressing 'back' key will switch back to the original test menu.

9.4 Engineering Mode Menu Tree



9. ENGINEERING MODE



9.5 BB Test [MENU 1]

9.5.1 LCD

This menu is to test LCD status and displays WHITE, RED, GREEN, BLUE, BLACK

9.5.2 CAMERA

This menu is to test the Camera function.

1) Main LCD preview : It shows the picture on Main LCD.

9.5.3 Backlight

This menu is to test the LCD Backlight and Keypad EL Backlight.

1) Backlight on: LCD Backlight and Keypad EL Backlight light on at the same time.

2) Backlight off: LCD Backlight and Keypad EL Backlight light off at the same time.

3) Backlight value: This controls brightness of Backlight. When entering into the menu, the present backlight-value in the phone is displayed. Use Left/Right key to adjust the level of brightness. The value of the brightness set at last will be saved in the NVRAM.

9.5.4 Buzzer

This menu is to test the melody sound.

- 1) Melody on : Melody sound is played through the speaker.
- 2) Melody off : Melody sound is off.

9.5.5 Vibrator

This menu is to test the vibration mode.

- 1) Vibrator on : Vibration mode is on.
- 2) Vibrator off : Vibration mode is off.

9.5.6 ADC (Analog to Digital Converter)

This displays the value of each ADC.

- 1) MVBAT ADC : Main Voltage Battery ADC
- 2) AUX ADC : Auxiliary ADC
- 3) TEMPER ADC : Temperature ADC

9.5.7 BATTERY

- 1) Bat Cal : This displays the value of Battery Calibration. The following menus are displayed in order :
BAT_LEV_4V, BAT_LEV_3_LIMIT, BAT_LEV_2_LIMIT, BAT_LEV_1_LIMIT,
BAT_IDLE_LIMIT, BAT_INCALL_LIMIT, SHUT_DOWN_VOLTAGE,
BAT_RECHARGE_LMT
- 2) TEMP Cal : This displays the value of Temperature Calibration. The following menus are displayed in order : TEMP_HIGH_LIMIT, TEMP_HIGH_RECHARGE_LMT,
TEMP_LOW_RECHARGE_LMT, TEMP_LOW_LIMIT

9.5.8 Audio

This is a menu for setting the control register of Voiceband Baseband Codec chip.

Although the actual value can be written over, it returns to default value after switching off and on the phone.

- 1) VbControl1 : VbControl1 bit Register Value Setting
- 2) VbControl2 : VbControl2 bit Register Value Setting
- 3) VbControl3 : VbControl3 bit Register Value Setting
- 4) VbControl4 : VbControl4 bit Register Value Setting
- 5) VbControl5 : VbControl5 bit Register Value Setting
- 6) VbControl6 : VbControl6 bit Register Value Setting

9. ENGINEERING MODE

9.5.9 DAI (Digital Audio Interface)

This menu is to set the Digital Audio Interface Mode for Speech Transcoder and Acoustic testing.

- 1) DAI AUDIO : DAI audio mode
- 2) DAI UPLINK : Speech encoder test
- 3) DAI DOWNLINK : Speech decoder test
- 4) DAI OFF : DAI mode off

9.5.10 Bluetooth

This menu is to test Bluetooth.

- 1) Enter test mode
- 2) Bypass mode On
- 3) Bypass mode Off

9.6 RF Test [MENU 2]

9.6.1 SAR test

This menu is to test the Specific Absorption Rate.

- 1) SAR test on : Phone continuously process TX only. Call-setup equipment is not required.
- 2) SAR test off : TX process off

9.7 MF mode [MENU 3]

This manufacturing mode is designed to do the baseband test automatically. Selecting this menu will process the test automatically, and phone displays the previous menu after completing the test.

9.7.1 All auto test

LCD, Backlight, Vibrator, Buzzer, Key Pad, Mic&Speaker, Camera tests is excuted.

9.7.2 Backlight

LCD Backlight is on for about 1.5 seconds at the same time, then off.

9.7.3 Buzzer

This menu is to test the volume of Melody. It rings in the following sequence. Volume 1, Volume 2, Volume 3, Volume 0 (mute), Volume 4, Volume 5.

9.7.4 Vibrator

Vibrator is on for about 1.5 seconds.

9.7.5 LCD

Main LCD screen resolution tests horizontally and vertically one by one and fills the screen.

9.7.6 Key pad

When a pop-up message shows 'Press Any Key', you may press any keys including side keys, but not [Soft2 Key]. If the key is working properly, name of the key is displayed on the screen. Test will be completed in 15 seconds automatically.

9.7.7 MicSpk Test

The sound from MIC is recorded for about 3 seconds, then it is replayed on the speaker automatically.

9.7.8 Camera

Camera is operated and all functiones is available except save function.

9.8 Trace option [MENU 4]

This is NOT a necessary menu to be used by neither engineers nor users.

9.9 Call timer [MENU 5]

This menu is to set the Digital Audio Interface Mode for Speech Transcoder and Acoustic testing.

- 1) All calls : This displays total conversation time. User cannot reset this value.
- 2) Reset settings : This resets total conversation time to this, [00:00:00].
- 3) DAI DOWNLINK : Speech decoder test
- 4) DAI OFF : DAI mode off

9. ENGINEERING MODE

9.10 Fact. Reset [MENU 6]

This Factory Reset menu is to format data block in the flash memory and this procedure set up the default value in data block.

Attention

- ① Fact. Reset (i.e.Factory Reset) should be only used during the Manufacturing process.
- ② Servicemen should NOT progress this menu, otherwise some of valuable data such as Setting value, RF Calibration data, etc. cannot be restored again.

9.11 S/W version [MENU 7]

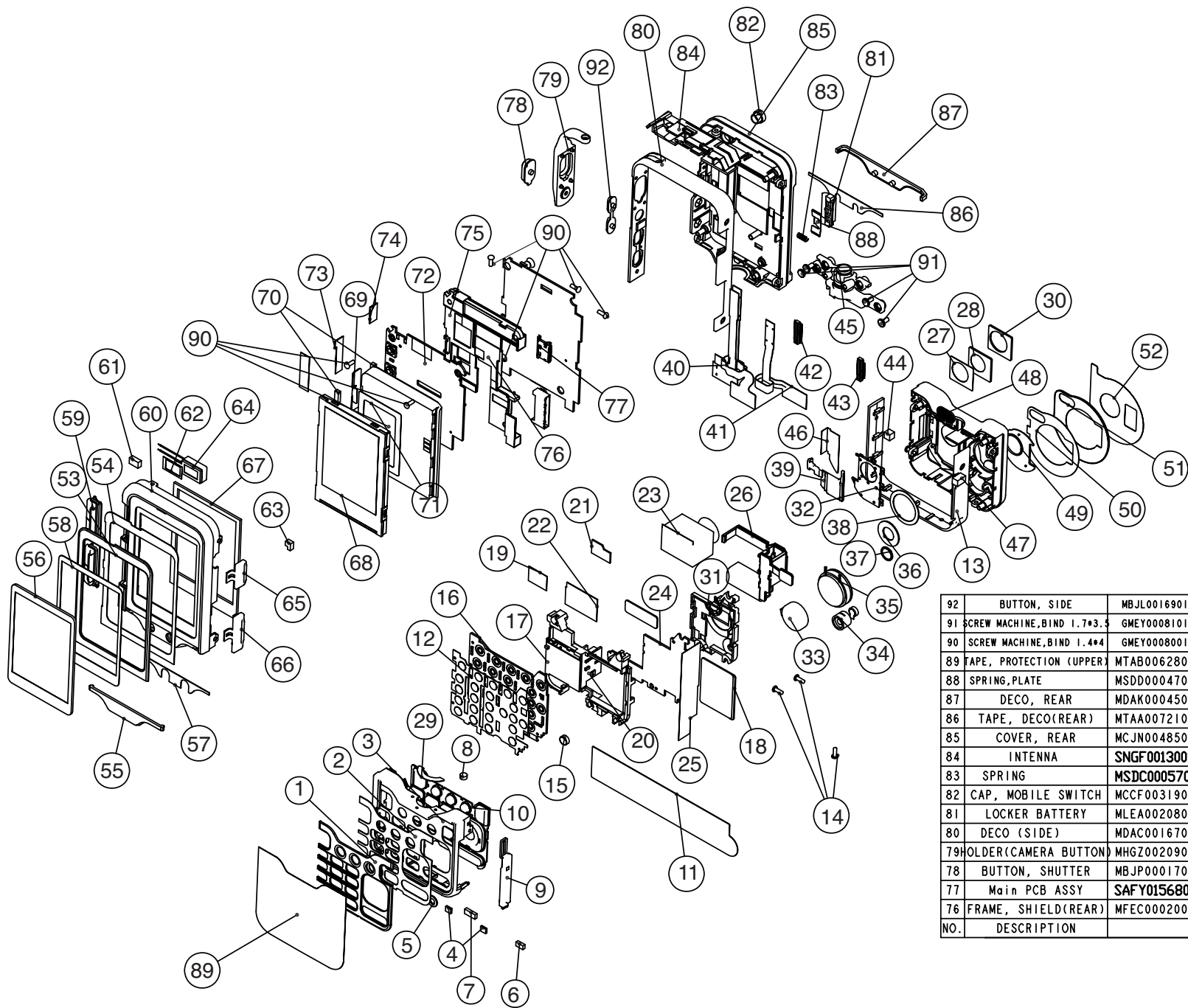
This displays software version stored in the phone.

9.12 MM S/W Download [MENU 8]

- 1) M3M : This menu downloads to ISP NOR flash memory.

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.1 EXPLODED VIEW



40	PCB ASSY, FLEXIBLE, SMT(50PIN)	SPCY0047301	I
39	COVER(CAMERA)	MCJZ0029801	I
38	FILTER, SPEAKER	MFBC0013801	I
37	FILTER, MIKE	MFBD0008701	I
36	PAD, MOTOR	MPBJ0023001	I
35	SPEAKER	SUSY0015401	I
34	MICROPHONE	SUMY0008702	I
33	MOTOR	SJMY0006603	I
32	PLATE(CAMERA)	MPFZ0015801	I
31	PAD, MOTOR 2	MPBJ0023101	I
30	PAD(CAMERA top)	MPBT0012501	I
29	TAPE_SLIDE		I
28	WINDOW, CAMERA	MWAE0006301	I
27	TAPE, WINDOW	MTAD0034001	I
26	STROBE(MODULE)	SMZY0009201	I
25	TAPE, PROTECTION	MTAB0062801	I
24	SUB PCB ASSY(CAMERA)	SAJY0016901	I
23	CAMERA	SVCY0005001	I
22	PAD, CAMERA(bottom)	MPBT0014301	I
21	PAD(STROBE)	MPBZ0082201	I
20	FRAME, SHIELD(KEY)	MFEA0006101	I
19	GASKET	MGAZ0010701	I
18	PAD (SD CARD bottom)	MPBZ0078201	I
17	GASKET SHIELD FORM	MGAD0085601	I
16	KEY PCB ASSY	SAEY0049101	I
15	MIKE	SUMY0010301	I
14	SCREW MACHINE, BIND 1.4*4	GMEY0008001	4
13	DECO (SIDE)	MDAC0016801	I
12	DOME ASSY, METAL	ADCA0030101	I
11	TAPE, PROTECTION	MTAB0077301	I
10	KEYPAD ASSY	AKAZ0008005	I
9	CAP, MULTIMEDIA CARD	MCCG0001101	I
8	MAGNET, SWITCH	MMAA0002201	I
7	GASKET, SHIELD FORM	MGAD0083901	I
6	GASKET, SHIELD FORM	MGAD0086301	I
5	FILTER, MIKE	MFBD0008801	I
4	PAD(CHARGING PAD)	MPBZ0089401	2
3	COVER, UPPER	MCJX0000101	I
2	TAPE, DECO	MTAA0072201	I
1	DECO	MDAY0010301	I
92	BUTTON, SIDE	MBJL0016901	I
91	SCREW MACHINE, BIND 1.7*3.5	GMEY0008101	6
90	SCREW MACHINE, BIND 1.4*4	GMEY0008001	16
89	TAPE, PROTECTION (UPPER)	MTAB0062801	I
88	SPRING, PLATE	MSDD0004701	I
87	DECO, REAR	MDAK0004501	I
86	TAPE, DECO(REAR)	MTAA0072101	I
85	COVER, REAR	MCJN0048501	I
84	ANTENNA	SNGF0013001	I
83	SPRING	MSDC0005701	I
82	CAP, MOBILE SWITCH	MCCF0031901	I
81	LOCKER BATTERY	MLEA0020801	I
80	DECO (SIDE)	MDAC0016701	I
79	HOLDER(CAMERA BUTTON)	MHGZ0020901	I
78	BUTTON, SHUTTER	MBJP0001701	I
77	Main PCB ASSY	SAFY0156801	I
76	FRAME, SHIELD(REAR)	MFEC0002001	I
75	INSULATOR(TOP)		I
74	GASKET	MGAZ0012301	I
73	GASKET(SIDE)	MGAZ0012401	I
72	SUB PCB ASSY	SAJY0016801	I
71	GASKET LCD	MGAZ0012501	I
70	PAD	MPBZ0084401	2
69	SIDE KEY FPC	SPKY0014601	I
68	LCD	SVLY0026301	I
67	LCD PAD	MGAZ0012501	I
66	CAP, RECEPTACLE	MCCE0025701	I
65	CAP, EARPHONE JACK	MCCC0032201	I
64	RECEIVER	SURY0010001	I
63	PAD(LCD LEFT)	MPBZ0089601	I
62	FILTER, RECEIVER	MFBB0009401	I
61	PAD(LCD RIGHT)	MPBZ0089501	I
60	COVER, FRONT	MCJK0052801	I
59	BUTTON, FUNCTION	MBJC0013405	I
58	TAPE, WINDOW	MTAD0048301	I
57	TAPE, DECO (cyon)	MTAA0072301	I
56	WINDOW, LCD	MWAC0047603	I
55	DECO, FRONT(CYON)	MDAG0008702	I
54	TAPE, DECO	MTAA0072401	I
53	DECO, FRONT	MDAG0008801	I
52	TAPE PROTECTION	MTAB0075701	I
51	DECO, CAMERA	MDAD0009901	I
50	TAPE, DECO	MTAA0072001	I
49	DECO (CAMERA CIRCLE)	MDAY0011801	I
48	WINDOW, LED	MWAD0005501	I
47	GASKET SHIELD FORM	MGAD0085501	I
46	TAPE	MTAZ0070901	I
45	HINGE ASSY, FOLDER	AHFA0001601	I
44	GASKET SHIELD FORM	MGAD0085401	I
43	GASKET	MGAZ0012601	I
42	PAD (50PIN)	MPBZ0084301	I
41	PCB ASSY, FLEXIBLE, SMT(40PIN)	SPCY0048403	I
40	PCB ASSY, FLEXIBLE, SMT(50PIN)	SPCY0047301	I
39	COVER(CAMERA)	MCJZ0029801	I
38	FILTER, SPEAKER	MFBC0013801	I
37	FILTER, MIKE	MFBD0008701	I
36	PAD, MOTOR	MPBJ0023001	I
35	SPEAKER	SUSY0015401	I
34	MICROPHONE	SUMY0008702	I
33	MOTOR	SJMY0006603	I
32	PLATE(CAMERA)	MPFZ0015801	I
31	PAD, MOTOR 2	MPBJ0023101	I
30	PAD(CAMERA top)	MPBT0012501	I
29	TAPE_SLIDE		I
28	WINDOW, CAMERA	MWAE0006301	I
27	TAPE, WINDOW	MTAD0034001	I
26	STROBE(MODULE)	SMZY0009201	I
25	TAPE, PROTECTION	MTAB0062801	I
24	SUB PCB ASSY(CAMERA)	SAJY0016901	I
23	CAMERA	SVCY0005001	I
22	PAD, CAMERA(bottom)	MPBT0014301	I
21	PAD(STROBE)	MPBZ0082201	I
20	FRAME, SHIELD(KEY)	MFEA0006101	I
19	GASKET	MGAZ0010701	I
18	PAD (SD CARD bottom)	MPBZ0078201	I
17	GASKET SHIELD FORM	MGAD0085601	I
16	KEY PCB ASSY	SAEY0049101	I
15	MIKE	SUMY0010301	I
14	SCREW MACHINE, BIND 1.4*4	GMEY0008001	4
13	DECO (SIDE)	MDAC0016801	I
12	DOME ASSY, METAL	ADCA0030101	I
11	TAPE, PROTECTION	MTAB0077301	I
10	KEYPAD ASSY	AKAZ0008005	I
9	CAP, MULTIMEDIA CARD	MCCG0001101	I
8	MAGNET, SWITCH	MMAA0002201	I
7	GASKET, SHIELD FORM	MGAD0083901	I
6	GASKET, SHIELD FORM	MGAD0086301	I
5	FILTER, MIKE	MFBD0008801	I
4	PAD(CHARGING PAD)	MPBZ0089401	2
3	COVER, UPPER	MCJX0000101	I
2	TAPE, DECO	MTAA0072201	I
1	DECO	MDAY0010301	I

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.2 Replacement Parts <Mechanic component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Specification	Color	Remark
1		GSM,BAR/FILP	TGSM0042001		Titanium	
2	AAAY00	ADDITION	AAAY0148501		Titanium	
2	APEY00	PHONE	APEY0262601	KG920_PHONE	Titanium	
3	ACGK00	COVER ASSY,FRONT	ACGK0065601	KG920_COVER ASSY,FRONT	Titanium	
4	MBJC00	BUTTON,FUNCTION	MBJC0013405	KG920_BUTTON,FUNCTION	Silver	59
4	MCCC00	CAP,EARPHONE JACK	MCCC0032201	KG920_CAP,EARPHONE JACK	Silver	65
4	MCCE00	CAP,RECEPTACLE	MCCE0025701	KG920_CAP,RECEPTACLE	Silver	66
4	MCJK00	COVER,FRONT	MCJK0052801	KG920_COVER,FRONT	Silver	60
4	MDAG00	DECO,FRONT	MDAG0008801		Black	53
4	MFBB00	FILTER,RECEIVER	MFBB0009401		Black	62
4	MIDZ00	INSULATOR	MIDZ0101901	3*2.5		
4	MPBG00	PAD,LCD	MPBG0047601			
4	MPBZ00	PAD	MPBZ0089501			61
4	MPBZ01	PAD	MPBZ0089601			63
4	MTAA00	TAPE,DECO	MTAA0072301			57
4	MTAA01	TAPE,DECO	MTAA0072401			54
4	MTAD00	TAPE,WINDOW	MTAD0055401			
4	SURY00	RECEIVER	SURY0010101	ASSY ,107 dB,32 ohm,11*07 ,3T, Wire:C-20mm		
3	ACGM00	COVER ASSY,REAR	ACGM0066801	KG920_COVER ASSY,REAR	Titanium	
4	MBJL00	BUTTON,SIDE	MBJL0016901		Silver	
4	MCJN00	COVER,REAR	MCJN0048501	KG920_COVER,REAR	Silver	85
4	MDAC00	DECO,SIDE	MDAC0016701	KG920_DECO,SIDE_Main	Silver	80
4	MDAK00	DECO,REAR	MDAK0004501		Silver	87
4	MGAD00	GASKET,SHIELD FORM	MGAD0125501	3.5*2*2.5t		
4	MIDZ00	INSULATOR	MIDZ0093001			
4	MIDZ01	INSULATOR	MIDZ0101301	16*4		
4	MLAB00	LABEL,A/S	MLAB0000601	HUMIDITY STICKER		
4	MLEA00	LOCKER,BATTERY	MLEA0020801		Silver	81
4	MPBZ01	PAD	MPBZ0134701			
4	MSDC00	SPRING,LOCKER	MSDC0005701			83
4	MSDD00	SPRING,PLATE	MSDD0004701		Silver	88
4	MTAA00	TAPE,DECO	MTAA0072101			86
4	MTAB00	TAPE,PROTECTION	MTAB0063701			

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
4	MTAB01	TAPE,PROTECTION	MTAB0076401			
4	SNGF00	ANTENNA,GSM,FIXED	SNGF0013001	4.0:1 , -2.7 dBd , GSM900/DCS1800/PCS1900 INTERNAL Type Pb-Free		84
3	ACGT00	COVER ASSY,UPPER	ACGT0000101		Silver	
4	MCCG00	CAP,MULTIMEDIA CARD	MCCG0001101		Silver	9
4	MCJX00	COVER,UPPER	MCJX0000101		Silver	3
4	MDAY00	DECO	MDAY0010301		Black	1
4	MFBD00	FILTER,MIKE	MFBD0008801			5
4	MGAD00	GASKET,SHIELD FORM	MGAD0083901			7
4	MGAD01	GASKET,SHIELD FORM	MGAD0086301			6
4	MMAA00	MAGNET,SWITCH	MMAA0002201			8
4	MPBZ00	PAD	MPBZ0089401			4
4	MTAA00	TAPE,DECO	MTAA0072201			2
4	MTAB00	TAPE,PROTECTION	MTAB0062801			25,89
3	ACGZ00	COVER ASSY	ACGZ0012301	KG920_COVER ASSY	Titanium	
4	ACGU00	COVER ASSY,LOWER	ACGU0000101		Titanium	
5	MCJY00	COVER,LOWER	MCJY0000101		Silver	
6	MICD00	INSERT,BAR	MICD0001001		Silver	
6	MICZ00	INSERT	MICZ0019101		Silver	
6	MICZ01	INSERT	MICZ0019201		Silver	
6	MICZ02	INSERT	MICZ0019301		Silver	
5	MCJZ00	COVER	MCJZ0029801		Silver	39
5	MDAD00	DECO,CAMERA	MDAD0009901		Silver	51
5	MDAY00	DECO	MDAY0011801		Silver	49
5	MFBC00	FILTER,SPEAKER	MFBC0013801		Black	38
5	MFBD00	FILTER,MIKE	MFBD0008701		Black	37
5	MGAD00	GASKET,SHIELD FORM	MGAD0085401			44
5	MGAD01	GASKET,SHIELD FORM	MGAD0085501			47
5	MPBJ00	PAD,MOTOR	MPBJ0023001		Black	36
5	MPBT00	PAD,CAMERA	MPBT0012501		Black	30
5	MPFZ00	PLATE	MPFZ0015801		Silver	32
5	MTAA00	TAPE,DECO	MTAA0072001			50
5	MTAB00	TAPE,PROTECTION	MTAB0075701			52
5	MWAD00	WINDOW,LED	MWAD0005501			48
4	AFBA00	FRAME ASSY,SHIELD	AFBA0002401		Gray	
5	MFEA00	FRAME,SHIELD	MFEA0006001		Silver	
5	MPBJ00	PAD,MOTOR	MPBJ0023101			31

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
4	AFBA01	FRAME ASSY,SHIELD	AFBA0002501		Gray	
5	MFEA00	FRAME,SHIELD	MFEA0006101		Silver	20
5	MGAZ00	GASKET	MGAZ0010701		Black	19
5	MPBH00	PAD,MIKE	MPBH0013801			
5	MPBT00	PAD,CAMERA	MPBT0014301			22
5	MPBZ00	PAD	MPBZ0082201		Black	21
4	AHFA00	HINGE ASSY,FOLDER	AHFA0001601		Soft Gray	45
4	GMEY00	SCREW MACHINE,BIND	GMEY0008001	1.4 mm,4 mm,SWCH18A ,B ,+ ,HEAD D=2.7MM	Titanium	14,90
4	GMEY01	SCREW MACHINE,BIND	GMEY0008101	1.7 mm,3.5 mm,SWCH18A ,B ,+ ,Head=3.5mm	Silver	91
4	MDAC00	DECO,SIDE	MDAC0016801	KG920_DECO,SIDE_folder	Silver	13
4	MGAD00	GASKET,SHIELD FORM	MGAD0085601			
4	MGAZ00	GASKET	MGAZ0012601			43
4	MGAZ01	GASKET	MGAZ0033801			
4	MIC1	MICROPHONE	SUMY0010301	FPCB ,-42 dB,4*1.5T ,Standard Holder		15
4	MIDZ00	INSULATOR	MIDZ0061101			
4	MLAZ00	LABEL	MLAZ0038303	Folder Label		
4	MPBZ00	PAD	MPBZ0084301			42
4	MPBZ01	PAD	MPBZ0106401			
4	MPBZ02	PAD	MPBZ0078201		Black	18
4	MTAB00	TAPE,PROTECTION	MTAB0077301			11
4	MTAD00	TAPE,WINDOW	MTAD0034001			27
4	MWAE00	WINDOW,CAMERA	MWAE0006301		Silver	28

12. EXPLODED VIEW & REPLACEMENT PART LIST

<Main component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Specification	Color	Remark
4	SACY00	PCB ASSY,FLEXIBLE	SACY0030401			
5	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0026301			
6	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0016101			
7	CON101	CONNECTOR, BOARD TO BOARD	ENBY0012301	40 PIN,0.4 mm,ETC , ,		
6	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0019901			
7	CON100	CONNECTOR,BOARD TO BOARD	ENBY0014501	40 PIN,0.4 mm,ETC , ,		
6	SPCY00	PCB,FLEXIBLE	SPCY0048403	POLYI ,0.4 mm,MULTI-4 ,		41
4	SACY01	PCB ASSY,FLEXIBLE	SACY0030501			
5	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0026401			
6	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0020001			
7	CON100	CONNECTOR, BOARD TO BOARD	ENBY0015401	50 PIN,0.4 mm,STRAIGHT ,AU ,		
7	CON101	CONNECTOR, BOARD TO BOARD	ENBY0022401	50 PIN,0.4 mm,ETC , ,H=0.9, Header		
6	SPCY	PCB,FLEXIBLE	SPCY0047301	POLYI ,.4 mm,MULTI-4 ,CAMERA_FPCB		40
4	SAEY00	PCB ASSY,KEYPAD	SAEY0049101			16
5	SAEB00	PCB ASSY, KEYPAD,INSERT	SAEB0014901			
6	ADCA00	DOME ASSY,METAL	ADCA0030101		Silver	12
5	SAEE00	PCB ASSY,KEYPAD,SMT	SAEE0016301			
6	SAEC00	PCB ASSY,KEYPAD,SMT BOTTOM	SAEC0014501			
7	C101	CAP,TANTAL,CHIP,MAKER	ECTZ0004701	4.7 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C102	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	CN101	CONNECTOR, BOARD TO BOARD	ENBY0012401	40 PIN,0.4 mm,ETC , ,		
7	CN102	CONN,RECEPTACLE	ENEY0003801	2 PIN, , ,		
7	CN103	CONN,RECEPTACLE	ENEY0003801	2 PIN, , ,		
7	CN104	CONN,RECEPTACLE	ENEY0003801	2 PIN, , ,		
7	FB101	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
7	FB102	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
7	Q101	TR,BJT,NPN	EQBN0005301	EMT3 ,0.15 W,R/TP ,		
7	R101	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
7	R102	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
7	R122	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
7	R123	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
7	R124	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
7	R125	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
7	S101	CONN,SOCKET	ENSY0012901	11 PIN,ETC , ,1.3 mm,Without Boss		
7	VA100	VARISTOR	SEVY0003801	18 V , ,SMD ,		
7	VA103	VARISTOR	SEVY0003601	5.6 V , ,SMD ,100pF, 1005		
7	VA104	VARISTOR	SEVY0003601	5.6 V , ,SMD ,100pF, 1005		
7	VA105	VARISTOR	SEVY0003601	5.6 V , ,SMD ,100pF, 1005		
6	SAED00	PCB ASSY,KEYPAD,SMT TOP	SAED0014701			
7	LD101	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD102	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD103	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD104	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD105	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD106	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD107	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD108	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD109	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD110	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD111	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD112	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD113	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD114	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD115	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD116	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD117	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD118	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	LD119	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
7	R103	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R104	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R105	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R106	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R107	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R108	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
7	R109	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R110	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R111	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R112	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R113	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R114	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R115	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R116	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R117	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R118	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R119	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R120	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	R121	RES,CHIP	ERHY0000231	390 ohm,1/16W,J,1005,R/TP		
7	VA101	VARISTOR	SEVY0001001	14 V ,SMD ,50pF, 1005		
7	VA102	VARISTOR	SEVY0001001	14 V ,SMD ,50pF, 1005		
6	SPEY00	PCB,KEYPAD	SPEY0041201	FR-4 ,0.8 mm,BUILD-UP 6 ,		
4	SAJY00	PCB ASSY,SUB	SAJY0016901			24
5	SAJE00	PCB ASSY,SUB,SMT	SAJE0010501			
6	SAJC00	PCB ASSY,SUB,SMT BOTTOM	SAJC0009701			
7	C102	CAP,TANTAL,CHIP,MAKER	ECTZ0000408	4.7 uF,25V ,M ,STD ,3216 ,R/TP		
7	C103	CAP,TANTAL,CHIP,MAKER	ECTZ0000407	1 uF,35V ,M ,STD ,3216 ,R/TP		
7	C104	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C106	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
7	C108	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C109	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
7	C110	CAP,CHIP,MAKER	ECZH0003503	1 uF,25V ,K ,X5R ,HD ,1608 ,R/TP		
7	C111	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
7	C112	CAP,CERAMIC,CHIP	ECCH0003002	10 uF,10V ,Z ,Y5V ,HD ,2012 ,R/TP		
7	C113	CAP,TANTAL,CHIP,MAKER	ECTZ0003901	10 uF,16V ,M ,STD ,ETC ,R/TP		
7	C114	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP		
7	C115	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP		
7	C122	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C126	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP		
7	C128	CAP,CERAMIC,CHIP	ECCH0003002	10 uF,10V ,Z ,Y5V ,HD ,2012 ,R/TP		
7	C129	CAP,CERAMIC,CHIP	ECCH0002104	2.2 uF,10V ,K ,X7R ,TC ,2012 ,R/TP		
7	C130	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
7	C139	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
7	C140	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
7	C150	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C151	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C204	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C205	CAP,CHIP,MAKER	ECZH0001504	0.68 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP		
7	C206	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	C207	CAP,CERAMIC,CHIP	ECCH0002004	0.22 uF,10V ,K ,B ,TC ,1005 ,R/TP		
7	C208	CAP,TANTAL,CHIP,MAKER	ECTZ0004205	33 uF,6.3V ,M ,STD ,2012 ,R/TP		
7	C209	CAP,TANTAL,CHIP	ECTH0001902	10 uF,10V ,M ,L ,ESR ,1608 ,R/TP		
7	C210	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
7	C211	CAP,TANTAL,CHIP,MAKER	ECTZ0004205	33 uF,6.3V ,M ,STD ,2012 ,R/TP		
7	C212	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C213	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	CON100	CONNECTOR, BOARD TO BOARD	ENBY0026101	30 PIN,0.4 mm,ETC , ,H=1.5, Socket		
7	CON200	CONNECTOR, BOARD TO BOARD	ENBY0019501	20 PIN,4 mm,ETC , ,H=1.5, Socket		
7	CON202	CONNECTOR, BOARD TO BOARD	ENBY0027401	16 PIN,0.4 mm,ETC , ,H=1.5, Female		
7	D100	DIODE,RECTIFIER	EDRY0000103			
7	D101	DIODE,RECTIFIER	EDRY0000103			
7	D200	DIODE,SWITCHING	EDSY0010001	UMD2 ,30 V,2 A,R/TP ,SCHOTTKY BARRIER DIODE		
7	L100	INDUCTOR,SMD,POWER	ELCP0006703	10 uH,M ,3.2*2.6*1.0 ,R/TP ,		
7	L101	INDUCTOR,SMD,POWER	ELCP0006703	10 uH,M ,3.2*2.6*1.0 ,R/TP ,		
7	L200	INDUCTOR,SMD,POWER	ELCP0006702	4.7 uH,M ,3.2 * 2.6 * 1.0 ,R/TP ,		
7	L201	FILTER,EMI/POWER	SFEY0006001	SMD ,		
7	Q100	TR,BJT,NPN	EQBN0012402	VSM ,100 mW,R/TP ,EPITAXIAL PLANAR NPN TRANSISTOR		
7	Q200	TR,FET,P-CHANNEL	EQFP0004501	SOT-323 ,.29 W,1.8 V,.86 A,R/TP ,P-Chanel MOSFET, Pb free		
7	Q201	TR,BJT,NPN	EQBN0012402	VSM ,100 mW,R/TP ,EPITAXIAL PLANAR NPN TRANSISTOR		
7	R100	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R101	RES,CHIP,MAKER	ERHZ0000205	1 Mohm,1/16W ,F ,1005 ,R/TP		
7	R102	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
7	R103	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R104	RES,CHIP,MAKER	ERHZ0000205	1 Mohm,1/16W ,F ,1005 ,R/TP		
7	R105	RES,CHIP,MAKER	ERHZ0000323	91 Kohm,1/16W ,F ,1005 ,R/TP		
7	R106	RES,CHIP,MAKER	ERHZ0000213	120 Kohm,1/16W ,F ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
7	R107	RES,CHIP,MAKER	ERHZ0000316	750 Kohm,1/16W ,F ,1005 ,R/TP		
7	R108	RES,CHIP,MAKER	ERHZ0000721	22 ohm,1/10W ,J ,1608 ,R/TP		
7	R109	RES,CHIP,MAKER	ERHZ0000701	0 ohm,1/10W ,J ,1608 ,R/TP		
7	R112	RES,CHIP,MAKER	ERHZ0000416	1300 ohm,1/16W ,J ,1005 ,R/TP		
7	R122	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
7	R200	RES,CHIP,MAKER	ERHZ0000519	9100 ohm,1/16W ,J ,1005 ,R/TP		
7	R208	RES,CHIP,MAKER	ERHZ0000259	270 Kohm,1/16W ,F ,1005 ,R/TP		
7	R209	RES,CHIP,MAKER	ERHZ0000516	820 Kohm,1/16W ,J ,1005 ,R/TP		
7	R210	RES,CHIP,MAKER	ERHZ0000292	4.7 ohm,1/16W ,F ,1005 ,R/TP		
7	R211	RES,CHIP,MAKER	ERHZ0000288	470 Kohm,1/16W ,F ,1005 ,R/TP		
7	R213	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R214	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R215	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
7	R216	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
7	R218	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
7	R219	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
7	R226	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R227	RES,CHIP,MAKER	ERHZ0000701	0 ohm,1/10W ,J ,1608 ,R/TP		
7	U100	TR,FET,P-CHANNEL	EQFP0003501	SC70JW-8 ,714 mW,6 V,2.3 A,R/TP ,Slew Rate Controlled Load Switch		
7	U101	IC	EUSY0239801	DFN ,10 PIN,R/TP ,DFN, 10-Lead Plastic, DC/DC Converter(CCD BIAS)		
7	U104	IC	EUSY0045307	2mm*2mmMLF ,6 PIN,R/TP ,500mA,LDO,PBFFREE		
7	U202	IC	EUSY0242301	uMAX ,10 PIN,R/TP ,TDFN ,10 PIN,R/TP ,1MHz Step-Up DC-DC CONVERTER		
7	U203	DIODE,TVS	EDTY0008101	SOT-553 ,5.9 V,0.38 W,R/TP ,		
6	SAJD00	PCB ASSY,SUB,SMT TOP	SAJD0011401			
7	C100	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C101	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C105	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP		
7	C116	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C117	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C118	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C119	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
7	C120	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
7	C121	CAP,TANTAL,CHIP,MAKER	ECTZ0004205	33 uF,6.3V ,M ,STD ,2012 ,R/TP		
7	C123	CAP,TANTAL,CHIP	ECTH0002201	10 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C124	CAP,TANTAL,CHIP	ECTH0002201	10 uF,6.3V ,M ,STD ,1608 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
7	C125	CAP,TANTAL,CHIP	ECTH0002201	10 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C127	CAP,TANTAL,CHIP	ECTH0002201	10 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C131	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C132	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C133	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C134	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C135	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C136	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	C137	CAP,TANTAL,CHIP,MAKER	ECTZ0004701	4.7 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C138	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
7	C141	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	C142	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C200	CAP,CHIP,MAKER	ECZH0001403	0.1 uF,16V ,K ,X7R ,HD ,1608 ,R/TP		
7	C201	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C202	CAP,TANTAL,CHIP	ECTH0002201	10 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C203	CAP,CERAMIC,CHIP	ECCH0002001	100000 pF,6.3V ,K ,B ,HD ,1005 ,R/TP		
7	CON201	CONNECTOR, BOARD TO BOARD	ENBY0022501	50 PIN,0.4 mm,ETC , ,H=0.9, Socket		
7	R110	RES,CHIP,MAKER	ERHZ0000268	33 Kohm,1/16W ,F ,1005 ,R/TP		
7	R111	RES,CHIP,MAKER	ERHZ0000463	33 ohm,1/16W ,J ,1005 ,R/TP		
7	R113	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
7	R116	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
7	R117	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
7	R118	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
7	R119	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
7	R120	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
7	R121	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
7	R123	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R124	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
7	R125	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
7	R201	RES,CHIP	ERHY0007076	1 ohm,1/4W ,F ,2012 ,R/TP		
7	R202	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
7	R203	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
7	R204	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
7	R205	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
7	R207	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R217	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
7	U102	IC	EUSY0230301			
7	U103	IC	EUSY0075602	SOT-23 ,5 PIN,R/TP ,LDO, Pb-free,3.2V,150mA		
7	U200	IC	EUSY0236501	QFN-16 ,16 PIN,R/TP ,QUAD BUS BUFFER		
7	U201	IC	EUSY0236101			
7	X100	OSCILLATOR	EXSY0020902	27 MHz,50 PPM,15 pF,SMD ,3.2*2.5*1.05 ,2.7V ~ 3.6V, -20'C ~ +70'C		
6	SPMY00	PCB,MODULE	SPMY0002603	FR-4 ,0.8 mm,STAGGERED-8 ,		
4	SJMY00	VIBRATOR,MOTOR	SJMY0006603	3 V, .08 A,12*3.4 ,25mm Elco 8000 Connector		33
4	SMZY00	MODULE,ETC	SMZY0009201	STROBE LAMP		26
4	SUMY00	MICROPHONE	SUMY0008702	ASSY ,30 dB,4*1.5T ,Uni. 18mm Elco8000		34
4	SUSY00	SPEAKER	SUSY0015401	ASSY ,8 ohm,90 dB,16 mm,3.7T, C-25mm		35
4	SVCY00	CAMERA	SVCY0005001	CCD ,MEGA ,5M CCD AF		23
3	AHCZ00	HOLDER ASSY	AHCZ0001401		Silver	
4	MBJP00	BUTTON,SHUTTER	MBJP0001701		Silver	78
4	MHGZ00	HOLDER	MHGZ0020901		Silver	79
4	MTAB00	TAPE,PROTECTION	MTAB0063101			
4	MTAZ00	TAPE	MTAZ0069401		Black	
3	AKAZ00	KEYPAD ASSY	AKAZ0008005	KG920_KEYPAD ASSY_CIS	Silver	10
3	GMEY00	SCREW MACHINE,BIND	GMEY0008001	1.4 mm,4 mm,SWCH18A ,B ,+ ,HEAD D=2.7MM	Titanium	
3	GMEY01	SCREW MACHINE,BIND	GMEY0008101	1.7 mm,3.5 mm,SWCH18A ,B ,+ ,Head=3.5mm	Silver	
3	MCCF00	CAP,MOBILE SWITCH	MCCF0031901	KG920_CAP,MOBILE SWITCH	Silver	82
3	MCCH00	CAP,SCREW	MCCH0055501		Silver	
3	MDAG00	DECO,FRONT	MDAG0008702		Silver	55
3	MLAK00	LABEL,MODEL	MLAK0018901	Model Label CIS		
3	MTAB00	TAPE,PROTECTION	MTAB0076601			
3	MWAC00	WINDOW,LCD	MWAC0047603			56
3	SAFY00	PCB ASSY,MAIN	SAFY0156801			77
4	SAFB00	PCB ASSY,MAIN,INSERT	SAFB0056301			
5	ANT300	ANTENNA,GSM,FIXED	SNGF0013401	3.0:1 , -7 dBd, ,Internal B,T Pb-Free FPCB		
5	MGAD00	GASKET,SHIELD FORM	MGAD0085601			17
5	MGAZ00	GASKET	MGAZ0033601			
5	MGAZ01	GASKET	MGAZ0033701			
5	SBCL00	BATTERY,CELL,LITHIUM	SBCL0001302	2 V,1 mAh,COIN ,W3000 Back Up Battery		
4	SAFF00	PCB ASSY,MAIN,SMT	SAFF0079101			
5	MLAB00	LABEL,A/S	MLAB0000601	HUMIDITY STICKER		
5	MLAC00	LABEL,BARCODE	MLAC0003301	EZ LOOKS(use for PCB ASSY MAIN(hardware))		
5	SAFC00	PCB ASSY,MAIN,SMT BOTTOM	SAFC0069501			

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C230	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C231	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C232	CAP,CERAMIC,CHIP	ECCH00004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C233	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C234	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C235	CAP,CERAMIC,CHIP	ECCH00004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C300	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C301	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C302	CAP,CERAMIC,CHIP	ECCH00006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C303	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C304	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C306	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C307	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C308	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C311	CAP,CERAMIC,CHIP	ECCH00004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C312	CAP,CERAMIC,CHIP	ECCH00004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C313	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C314	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C315	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C316	CAP,CERAMIC,CHIP	ECCH00006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C317	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C318	CAP,CERAMIC,CHIP	ECCH00006501	10 uF,6.3V ,K ,X5R ,TC ,2012 ,R/TP		
6	C319	CAP,CERAMIC,CHIP	ECCH0000104	3 pF,50V,C,NP0,TC,1005,R/TP		
6	C320	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C321	CAP,CERAMIC,CHIP	ECCH00004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C322	CAP,CHIP,MAKER	ECZH0003202	1 uF,6.3V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C324	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C325	CAP,CHIP,MAKER	ECZH0001211	220 nF,10V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C327	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C328	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C404	CAP,TANTAL,CHIP,MAKER	ECTZ0004204	100 uF,6.3V ,M ,STD ,3216 ,R/TP		
6	C405	CAP,TANTAL,CHIP,MAKER	ECTZ0004204	100 uF,6.3V ,M ,STD ,3216 ,R/TP		
6	C409	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C410	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C413	CAP,TANTAL,CHIP,MAKER	ECTZ0004202	10 uF,10V ,M ,STD ,2012 ,R/TP		
6	C416	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C420	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C421	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C423	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V,K,X5R,HD,1005,R/TP		
6	C425	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C426	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C434	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V,K,X5R,TC,1005,R/TP		
6	C501	CAP,TANTAL,CHIP,MAKER	ECTZ0003602	22 uF,6.3V,M,STD,2012,R/TP		
6	C502	CAP,CERAMIC,CHIP	ECCH0000113	18 pF,50V,J,NP0,TC,1005,R/TP		
6	C503	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C504	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C505	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C506	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C508	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C509	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V,J,NP0,TC,1005,R/TP		
6	C510	CAP,CERAMIC,CHIP	ECCH0000101	.5 pF,50V,C,NP0,TC,1005,R/TP		
6	C512	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C513	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C514	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C515	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C516	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C519	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C520	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C521	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V,K,X5R,HD,1005,R/TP		
6	C522	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V,J,NP0,TC,1005,R/TP		
6	C523	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C524	CAP,CHIP,MAKER	ECZH0001116	270 pF,50V,K,X7R,HD,1005,R/TP		
6	C525	CAP,CERAMIC,CHIP	ECCH0000178	1.8 pF,50V,D,NP0,TC,1005,R/TP		
6	C526	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C527	CAP,CERAMIC,CHIP	ECCH0000178	1.8 pF,50V,D,NP0,TC,1005,R/TP		
6	C528	CAP,CHIP,MAKER	ECZH0001116	270 pF,50V,K,X7R,HD,1005,R/TP		
6	C529	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V,C,NP0,TC,1005,R/TP		
6	C530	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C531	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C532	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C533	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V,C,NP0,TC,1005,R/TP		
6	C534	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C535	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V,K,X5R,HD,1005,R/TP		
6	C536	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V,C,NP0,TC,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C537	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C538	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C539	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C540	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C541	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C543	CAP,CERAMIC,CHIP	ECCH00006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C544	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C545	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C546	CAP,CHIP,MAKER	ECZH0003202	1 uF,6.3V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C547	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C548	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C549	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C550	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C551	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C552	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C553	CAP,CHIP,MAKER	ECZH0003202	1 uF,6.3V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C555	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C635	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C636	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C637	CAP,CERAMIC,CHIP	ECCH00006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C638	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C700	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	CN301	CONNECTOR,ETC	ENZY0014301	3 PIN,2.5 mm,ETC , ,Battery Connector		
6	CN700	CONNECTOR,BOARD TO BOARD	ENBY0014001	40 PIN,0.4 mm,ETC , ,		
6	D100	DIODE,SWITCHING	EDSY0017301	VSM ,15 V,100 mA,R/TP ,PB-FREE		
6	D300	DIODE,SWITCHING	EDSY0005301	SC-70 ,80 V,0.1 A,R/TP ,		
6	D700	DIODE,TVS	EDTY0008101	SOT-553 ,5.9 V,0.38 W,R/TP ,		
6	D701	DIODE,TVS	EDTY0008101	SOT-553 ,5.9 V,0.38 W,R/TP ,		
6	D702	DIODE,TVS	EDTY0008101	SOT-553 ,5.9 V,0.38 W,R/TP ,		
6	D703	DIODE,TVS	EDTY0008101	SOT-553 ,5.9 V,0.38 W,R/TP ,		
6	D704	DIODE,TVS	EDTY0008101	SOT-553 ,5.9 V,0.38 W,R/TP ,		
6	D705	DIODE,TVS	EDTY0008101	SOT-553 ,5.9 V,0.38 W,R/TP ,		
6	D706	DIODE,TVS	EDTY0008101	SOT-553 ,5.9 V,0.38 W,R/TP ,		
6	FB604	FILTER,BEAD,CHIP	SFBH0000905	600 ohm,1608 ,		
6	FL501	FILTER,SEPERATOR	SFAY0005602	900 ,1800.1900 ,2.7 dB,3.0 dB,30 dB,30 dB,ETC ,5.6*4.5*1.4, TRIPLE FEM		
6	J300	CONN,SOCKET	ENSY0014601	6 PIN,ETC , ,2.54 mm,H=2.3		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	L502	INDUCTOR,CHIP	ELCH0005010	1.8 nH,S ,1005 ,R/TP ,		
6	L503	INDUCTOR,CHIP	ELCH0005014	5.6 nH,S ,1005 ,R/TP ,		
6	L504	INDUCTOR,CHIP	ELCH0005015	6.8 nH,S ,1005 ,R/TP ,		
6	L505	INDUCTOR,CHIP	ELCH0005005	27 nH,J ,1005 ,R/TP ,		
6	M300	IC	EUSY0239102	6.9 * 7.9 * 1.5 mm ,28 PIN,R/TP ,Bluetooth Module v1.2, 26MHz, For GSM		
6	Q300	TR,BJT,NPN	EQBN0007101	EMT3 ,0.15 W,R/TP ,LOW FREQUENCY		
6	R103	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R301	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R302	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R303	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R304	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R305	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R306	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R307	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R308	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R309	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R310	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R311	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R314	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R315	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R316	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R317	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R318	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R319	RES,CHIP	ERHY0000203	10 ohm,1/16W,J,1005,R/TP		
6	R320	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R321	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R322	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R323	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R324	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R326	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R327	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R329	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R330	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R331	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R332	RES,CHIP	ERHY0000116	1.5K ohm,1/16W,F,1005,R/TP		
6	R333	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R334	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R336	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R337	RES,CHIP	ERHY0000265	20K ohm,1/16W,J,1005,R/TP		
6	R338	RES,CHIP,MAKER	ERHZ0000757	15 ohm,1/10W ,J ,1608 ,R/TP		
6	R339	RES,CHIP	ERHY0000244	1.5K ohm,1/16W,J,1005,R/TP		
6	R340	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R341	RES,CHIP	ERHY0000296	1M ohm,1/16W,J,1005,R/TP		
6	R342	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R406	RES,CHIP	ERHY0000202	4.7 ohm,1/16W,J,1005,R/TP		
6	R408	RES,CHIP	ERHY0000202	4.7 ohm,1/16W,J,1005,R/TP		
6	R417	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
6	R420	RES,CHIP	ERHY0000247	2.2K ohm,1/16W,J,1005,R/TP		
6	R422	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R423	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R426	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R427	RES,CHIP	ERHY0000247	2.2K ohm,1/16W,J,1005,R/TP		
6	R501	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R502	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R503	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R504	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R505	CAP,CHIP,MAKER	ECZH0000839	4.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	R507	RES,CHIP	ERHY0000206	18 ohm,1/16W,J,1005,R/TP		
6	R508	RES,CHIP,MAKER	ERHZ0000263	300 ohm,1/16W ,F ,1005 ,R/TP		
6	R509	RES,CHIP,MAKER	ERHZ0000263	300 ohm,1/16W ,F ,1005 ,R/TP		
6	R510	RES,CHIP	ERHY0000204	12 ohm,1/16W,J,1005,R/TP		
6	R512	RES,CHIP	ERHY0000232	430 ohm,1/16W,J,1005,R/TP		
6	R513	RES,CHIP	ERHY0000232	430 ohm,1/16W,J,1005,R/TP		
6	R514	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R515	RES,CHIP	ERHY0000125	10K ohm,1/16W,F,1005,R/TP		
6	R516	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R517	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R519	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R520	RES,CHIP	ERHY0000296	1M ohm,1/16W,J,1005,R/TP		
6	R521	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R522	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R523	RES,CHIP	ERHY0000263	15K ohm,1/16W,J,1005,R/TP		
6	R610	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R700	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R701	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R702	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R703	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R704	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R705	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	SW501	CONN,RF SWITCH	ENWY0003301	,SMD ,0.4 dB,		
6	U300	IC	EUSY0223002	HVSO5 ,5 PIN,R/TP ,150mA CMOS LDO WITH OUTPUT CONTROL / 2.8V		
6	U301	IC	EUSY0227901	SON5-P-0.35(fSV) ,5 PIN,R/TP ,2-INPUT AND GATE, Pb Free		
6	U302	IC	EUSY0163901	uCSP ,10 PIN,R/TP ,Dual Analog Switch, 300MHz Bandwidth		
6	U303	IC	EUSY0163901	uCSP ,10 PIN,R/TP ,Dual Analog Switch, 300MHz Bandwidth		
6	U304	DIODE,TVS	EDTY0006501	SC70-6L ,5.25 V,100 W,R/TP ,		
6	U306	IC	EUSY0217901	3.0x3.1x1.0 ,3 PIN,R/TP ,HALL EFFECT SWITCH IC, Pb Free		
6	U501	PAM	SMPY0008301	35 dBm,53 %,0.0000025 A, dBc,50 dB,6.0*6.0*1.2 ,SMD ,FOR QUAD BAND GSM AND GPRS		
6	U502	IC	EUSY0223202	5.0*5.0 ,32 PIN,R/TP ,AERO11 TRANSCEIVER, D Version		
6	U503	IC	EUSY0216301	SC70 ,5 PIN,R/TP ,Single 2-Input NAND Gate		
6	U504	IC	EUSY0118602	SOT23 ,5 PIN,R/TP ,2.85V/150mA Low Noise uCap LDO Regulator, PBFREE		
6	U505	IC	EUSY0223006	HVSO5 ,5 PIN,R/TP ,1.8V ,150mA LDO		
6	U604	IC	EUSY0151902	SC70JW8 ,8 PIN,R/TP ,150mA High Performance LDO		
6	U701	IC	EUSY0218401	UCSP ,10 PIN,R/TP ,Dual Analog switch with shunt switch, Pb Free		
6	VA300	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	VA303	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	VA402	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	VA403	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	X501	VCTCXO	EXSK0005002	26 MHz,1 PPM,10 pF,SMD ,3.2*2.5*1.1 ,Old Version, Do Not Use		
5	SAFD00	PCB ASSY,MAIN,SMT TOP	SAFD0068701			
6	BAT100	CONN,JACK/PLUG,EARPHONE	ENJE0003001	2 ,2 PIN,W3000 Back Up Battery Holder		
6	C100	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C101	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C102	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C103	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C104	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C105	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C106	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C107	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C108	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C109	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C110	CAP,CERAMIC,CHIP	ECCH0000393	22 uF,6.3V ,M ,X5R ,HD ,2012 ,R/TP		
6	C111	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C112	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C113	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C114	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C115	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C116	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C117	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C118	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C119	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C120	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C121	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C122	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C123	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C124	CAP,CERAMIC,CHIP	ECCH0000165	68 nF,6.3V,K,X5R,HD,1005,R/TP		
6	C125	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C126	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C127	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C128	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C129	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C130	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C131	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C132	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C133	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C135	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C137	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C138	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C139	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C140	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C141	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C142	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C143	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C144	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C145	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C146	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C147	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C148	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C149	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C150	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C151	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C201	CAP,CERAMIC,CHIP	ECCH0000129	120 pF,50V,J,NP0,TC,1005,R/TP		
6	C202	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C203	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C204	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP		
6	C205	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C206	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C207	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C208	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C209	CAP,CERAMIC,CHIP	ECCH0007901	10 uF,4V ,M ,X5R ,TC ,1608 ,R/TP		
6	C210	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C211	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C213	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C214	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C215	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C216	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C217	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C218	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C219	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C220	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C221	CAP,TANTAL,CHIP	ECTH0001903	22 uF,6.3V ,M ,L_ ESR ,1608 ,R/TP		
6	C222	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C223	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C224	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C225	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C226	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C227	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C228	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C236	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C237	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C238	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C239	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C309	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C310	CAP,CERAMIC,CHIP	ECCH0006501	10 uF,6.3V ,K ,X5R ,TC ,2012 ,R/TP		
6	C323	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C401	CAP,TANTAL,CHIP,MAKER	ECTZ0005201	10 uF,6.3V ,M ,L_ESR ,1608 ,R/TP		
6	C402	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C403	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C406	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C407	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C408	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C411	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C412	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C417	CAP,TANTAL,CHIP,MAKER	ECTZ0004205	33 uF,6.3V ,M ,STD ,2012 ,R/TP		
6	C418	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C419	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C424	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP		
6	C427	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C428	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C429	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C430	CAP,CERAMIC,CHIP	ECCH0007901	10 uF,4V ,M ,X5R ,TC ,1608 ,R/TP		
6	C431	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C432	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C433	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C601	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C602	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C603	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C604	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C605	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C606	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C607	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C608	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C609	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C610	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C613	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C614	CAP,TANTAL,CHIP,MAKER	ECTZ0005201	10 uF,6.3V ,M ,L_ESR ,1608 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C615	CAP,TANTAL,CHIP,MAKER	ECTZ0005201	10 uF,6.3V ,M ,L_ ESR ,1608 ,R/TP		
6	C616	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C617	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C618	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C619	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C620	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C621	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C622	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C623	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C624	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C625	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C626	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C627	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C628	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C629	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C630	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C631	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C632	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C633	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C634	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C702	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C703	CAP,TANTAL,CHIP,MAKER	ECTZ0005201	10 uF,6.3V ,M ,L_ ESR ,1608 ,R/TP		
6	C704	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C705	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C706	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C707	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C708	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	CN300	CONNECTOR,I/O	ENRY0000801	24 PIN,0.5 mm,ETC ,Au ,BAT ZERO		
6	CN401	CONN,JACK/PLUG,EARPHONE	ENJE0003612	12 ,12 PIN,12P2.5T0.4MM PITCH		
6	CN601	CONNECTOR,BOARD TO BOARD	ENBY0027001	80 PIN,0.5 mm,ETC , ,H=3.0, Female		
6	D201	DIODE,SWITCHING	EDSY0012101	US-FLAT ,30 V,1 A,R/TP ,2.5*1.25*0.6(t)		
6	FB201	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
6	FB601	FILTER,BEAD,CHIP	SFBH0000905	600 ohm,1608 ,		
6	FB602	FILTER,BEAD,CHIP	SFBH0000905	600 ohm,1608 ,		
6	FB603	FILTER,BEAD,CHIP	SFBH0000905	600 ohm,1608 ,		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	FL300	FILTER,EMI/POWER	SFEY0007101	SMD ,1CH,1608Feedthru ESD/EMI filter for power Pb-free		
6	L401	INDUCTOR,CHIP	ELCH0001303	33 uH,K,2012,R/TP		
6	L402	INDUCTOR,CHIP	ELCH0001303	33 uH,K,2012,R/TP		
6	L601	INDUCTOR,SMD,POWER	ELCP0008001	4.7 uH,M ,2.5*2.0*1.0 ,R/TP ,		
6	L602	INDUCTOR,SMD,POWER	ELCP0008001	4.7 uH,M ,2.5*2.0*1.0 ,R/TP ,		
6	R100	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R101	RES,CHIP	ERHY0000225	200 ohm,1/16W,J,1005,R/TP		
6	R102	RES,CHIP	ERHY0010201	1.2 Mohm,1/16W ,F ,1005 ,R/TP		
6	R104	RES,CHIP	ERHY0000106	100 ohm,1/16W,F,1005,R/TP		
6	R106	RES,CHIP	ERHY0000512	10M ohm,1/16W,J,1608,R/TP		
6	R107	RES,CHIP	ERHY0000267	24K ohm,1/16W,J,1005,R/TP		
6	R108	RES,CHIP	ERHY0000152	82K ohm,1/16W,F,1005,R/TP		
6	R109	RES,CHIP	ERHY0000202	4.7 ohm,1/16W,J,1005,R/TP		
6	R110	RES,CHIP	ERHY0000291	330K ohm,1/16W,J,1005,R/TP		
6	R111	RES,CHIP	ERHY0000202	4.7 ohm,1/16W,J,1005,R/TP		
6	R112	RES,CHIP	ERHY0000125	10K ohm,1/16W,F,1005,R/TP		
6	R113	RES,CHIP	ERHY0000125	10K ohm,1/16W,F,1005,R/TP		
6	R115	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R201	RES,CHIP	ERHY0000149	68K ohm,1/16W,F,1005,R/TP		
6	R202	RES,CHIP	ERHY0000153	100K ohm,1/16W,F,1005,R/TP		
6	R203	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R204	RES,CHIP	ERHY0000269	30K ohm,1/16W,J,1005,R/TP		
6	R205	RES,CHIP	ERHY0000138	33K ohm,1/16W,F,1005,R/TP		
6	R206	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R207	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R208	RES,CHIP	ERHY0000250	3.3K ohm,1/16W,J,1005,R/TP		
6	R210	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R211	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R212	RES,CHIP	ERHY0000229	300 ohm,1/16W,J,1005,R/TP		
6	R213	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R214	RES,CHIP	ERHY0000125	10K ohm,1/16W,F,1005,R/TP		
6	R215	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R216	RES,CHIP	ERHY0000137	27K ohm,1/16W,F,1005,R/TP		
6	R217	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R218	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R219	RES,CHIP	ERHY0000125	10K ohm,1/16W,F,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R220	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R221	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R222	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R325	RES,CHIP	ERHY0000269	30K ohm,1/16W,J,1005,R/TP		
6	R328	RES,CHIP	ERHY0000269	30K ohm,1/16W,J,1005,R/TP		
6	R335	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R401	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
6	R402	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R403	RES,CHIP	ERHY0000247	2.2K ohm,1/16W,J,1005,R/TP		
6	R404	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R405	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R409	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R410	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R411	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R412	RES,CHIP	ERHY0000247	2.2K ohm,1/16W,J,1005,R/TP		
6	R413	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R414	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R415	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R416	RES,CHIP	ERHY0000151	80.6K ohm,1/16W,F,1005,R/TP		
6	R418	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R419	RES,CHIP	ERHY0000151	80.6K ohm,1/16W,F,1005,R/TP		
6	R421	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R424	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R425	RES,CHIP	ERHY0000141	39K ohm,1/16W,F,1005,R/TP		
6	R428	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R429	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R430	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R431	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R432	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R601	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R602	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R603	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R604	RES,CHIP,MAKER	ERHZ0000259	270 Kohm,1/16W ,F ,1005 ,R/TP		
6	R606	RES,CHIP,MAKER	ERHZ0000265	300 Kohm,1/16W ,F ,1005 ,R/TP		
6	R607	RES,CHIP	ERHY0000160	180K ohm,1/16W,F,1005,R/TP		
6	R608	RES,CHIP	ERHY0000156	150K ohm,1/16W,F,1005,R/TP		
6	R609	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R706	RES,CHIP	ERHY0000247	2.2K ohm,1/16W,J,1005,R/TP		
6	R707	RES,CHIP	ERHY0000273	47K ohm,1/16W,J,1005,R/TP		
6	R708	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R710	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R711	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R712	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R713	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R714	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R715	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R716	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R717	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R718	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R720	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R721	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	U100	IC	EUSY0181601	BGA ,148 PIN,R/TP ,GSM ANALOG BASEBAND, Pb Free		
6	U101	IC	EUSY0181504	CSP BGA ,204 PIN,R/TP ,AD6527 w/USB		
6	U201	IC	EUSY0154410	MLF ,10 PIN,R/TP ,Dual(1.8V/150mA,2.8V/300mA) LDO Regulator		
6	U202	IC	EUSY0246201	WCSP(1.9x0.9) ,8 PIN,R/TP ,Dual 2-input positive AND gate. Pb Free		
6	U203	IC	EUSY0246101	WCSP(0.23mm Large Bump) ,5 PIN,R/TP ,Single 2-input positive AND gate, Pb Free		
6	U204	IC	EUSY0259801	WLCSP ,67 PIN,R/TP ,WLCSP ,67PIN,R/TP ,MA5Si2(64POLY MIDI / Internal D-AMP)		
6	U205	IC	EUSY0228401	SCSP ,88 PIN,R/TP ,512/128Mb (flash+PSRAM), I/O:3.0V, 8x11x1.4 ,SCSP		
6	U206	IC	EUSY0254701	DFN 3*3*0.9 ,10 PIN,R/TP ,Charger IC, I Max 1A, Wall Adaptor/USB Charger		
6	U305	IC	EUSY0217901	3.0x3.1x1.0 ,3 PIN,R/TP ,HALL EFFECT SWITCH IC, Pb Free		
6	U401	IC	EUSY0160001	MicroStar Junior ,15 PIN,R/TP ,1.1W Class-D Mono Audio AMP		
6	U402	IC	EUSY0280401	HVSOF5 ,5 PIN,R/TP ,150mA CMOS LDO WITH OUTPUT CONTROL / 2.85V		
6	U403	IC	EUSY0188601	MICROBUMP ,10 PIN,R/TP ,Dual SPDT Analog switch(Pb Free)		
6	U404	IC	EUSY0188601	MICROBUMP ,10 PIN,R/TP ,Dual SPDT Analog switch(Pb Free)		
6	U405	IC	EUSY0188601	MICROBUMP ,10 PIN,R/TP ,Dual SPDT Analog switch(Pb Free)		
6	U601	IC	EUSY0223007	HVSOF5 ,5 PIN,R/TP ,2.5V, 150mA,LDO		
6	U602	IC	EUSY0251501	DFN33-12 ,12 PIN,R/TP ,DUALDCDC_DMBpower,400mA,600mA,1Mhz		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	U603	IC	EUSY0045309	MLF ,6 PIN,R/TP ,2.8V/500mA LDO		
6	U700	IC	EUSY0186201	32-Pin QFN(5x5) ,32 PIN,R/TP ,Stereo CODEC		
6	VA301	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	VA401	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	VA404	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	VA405	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	VA406	VARISTOR	SEVY0003801	18 V , ,SMD ,		
6	VA407	VARISTOR	SEVY0003801	18 V , ,SMD ,		
6	VA408	VARISTOR	SEVY0003801	18 V , ,SMD ,		
6	VA409	VARISTOR	SEVY0003801	18 V , ,SMD ,		
6	VA410	VARISTOR	SEVY0003801	18 V , ,SMD ,		
6	X100	X-TAL	EXXY0004601	.032768 MHz,20 PPM,7 pF,65000 ohm,SMD ,6.9*1.4*1.3		
5	SPFY00	PCB,MAIN	SPFY0122701	FR-4 ,0.8 mm,STAGGERED-8 ,		
5	WSYY00	SOFTWARE	WSYY0364101	KG920P64-07-V10d-XXX-XX APR 21 2006 mot		
3	SAJY00	PCB ASSY,SUB	SAJY0016801			
4	AFBC00	FRAME ASSY,SHIELD(REAR)	AFBC0000501	KG920_FRAME ASSY,SHIELD(REAR)		
5	MFEC00	FRAME,SHIELD(REAR)	MFEC0002001	KG920_FRAME,SHIELD(REAR)		76
5	MGAZ00	GASKET	MGAZ0012301		Silver	74
5	MIDZ00	INSULATOR	MIDZ0093101			
5	MIDZ01	INSULATOR	MIDZ0097401			
5	MIDZ02	INSULATOR	MIDZ0098301			
5	MTAC00	TAPE,SHIELD	MTAC0037001			
5	MTAC01	TAPE,SHIELD	MTAC0037101			
4	MGAD00	GASKET,SHIELD FORM	MGAD0124801	3.5*5.5*1.1t		
4	SAJB00	PCB ASSY,SUB,INSERT	SAJB0007201			
5	MGAZ01	GASKET	MGAZ0012501			67,71
5	MIDA00	INSULATOR,LCD	MIDA0022101			
5	MIDZ00	INSULATOR	MIDZ0097301			
5	MPBZ00	PAD	MPBZ0084401			70
5	MSAZ00	SHEET	MSAZ0028101			
5	SACY00	PCB ASSY,FLEXIBLE	SACY0033401			
6	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0029601			
7	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0022501			
8	ESCY00	SWITCH,TACT	ESCY0003101	12 V,0.05 A,VERTICAL , G,1st=1.18N, 2nd=3.14N		
7	SPKY00	PCB,SIDEKEY	SPKY0015101	POLYI , mm,DOUBLE ,		
5	SPKY00	PCB,SIDEKEY	SPKY0014601	POLYI , mm,DOUBLE ,		69

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
5	SVLY00	LCD	SVLY0026301	MAIN ,240*320 ,37.5*53.5*3.15 ,262k ,TFT ,TM ,uPD161964, uPD161802 ,		68
4	SAJE00	PCB ASSY,SUB,SMT	SAJE0010401			
5	SAJC00	PCB ASSY,SUB,SMT BOTTOM	SAJC0009601			
6	C100	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C101	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C102	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C103	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C104	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C105	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C106	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C107	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C108	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C109	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C110	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C111	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C112	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C113	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C114	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C115	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C116	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C117	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C118	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C119	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C120	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C121	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C122	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C123	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C124	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C125	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C126	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C127	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C128	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C130	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C200	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C201	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C202	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C203	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C204	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C205	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C206	CAP,TANTAL,CHIP,MAKER	ECTZ0005201	10 uF,6.3V ,M ,L_ ESR ,1608 ,R/TP		
6	C207	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C208	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C209	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C211	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C212	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C400	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C401	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C402	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C405	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C406	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C407	CAP,CHIP,MAKER	ECZH0001420	1 uF,10V ,K ,X5R ,HD ,1608 ,R/TP		
6	C408	CAP,CHIP,MAKER	ECZH0001420	1 uF,10V ,K ,X5R ,HD ,1608 ,R/TP		
6	C409	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C410	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C411	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C412	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	CN301	CONNECTOR,BOARD TO BOARD	ENBY0015501	50 PIN,0.4 mm,STRAIGHT ,AU ,		
6	CN302	CONNECTOR,BOARD TO BOARD	ENBY0026901	80 PIN,0.5 mm,ETC , ,H=3.0, Male		
6	CN400	CONNECTOR,FFC/FPC	ENQY0010901	35 PIN,0.3 mm,ETC , ,H=1.2		
6	D400	DIODE,RECTIFIER	EDRY0000103			
6	FB400	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
6	FB401	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
6	FB402	FILTER,BEAD,CHIP	SFBH0007102	10 ohm,1005 ,Ferrite Bead		
6	FB403	FILTER,BEAD,CHIP	SFBH0007102	10 ohm,1005 ,Ferrite Bead		
6	FB404	FILTER,BEAD,CHIP	SFBH0007102	10 ohm,1005 ,Ferrite Bead		
6	FB405	FILTER,BEAD,CHIP	SFBH0007102	10 ohm,1005 ,Ferrite Bead		
6	FL400	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
6	FL401	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
6	FL402	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
6	FL403	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
6	FL404	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	Q100	TR,FET,P-CHANNEL	EQFP0004501	SOT-323 ,.29 W,1.8 V,.86 A,R/TP ,P-Chanel MOSFET, Pb free		
6	Q101	TR,FET,P-CHANNEL	EQFP0004501	SOT-323 ,.29 W,1.8 V,.86 A,R/TP ,P-Chanel MOSFET, Pb free		
6	Q301	TR,BJT,NPN	EQBN0012402	VSM ,100 mW,R/TP ,EPITAXIAL PLANAR NPN TRANSISTOR		
6	R100	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R102	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R103	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R104	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R105	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R106	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R107	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R108	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R109	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R110	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R111	RES,CHIP	ERHY0000225	200 ohm,1/16W,J,1005,R/TP		
6	R112	RES,CHIP,MAKER	ERHZ0000236	2000 ohm,1/16W ,F ,1005 ,R/TP		
6	R113	RES,CHIP	ERHY0008502	2.7 Kohm,1/16W ,F ,1005 ,R/TP		
6	R114	RES,CHIP	ERHY0000112	1K ohm,1/16W,F,1005,R/TP		
6	R115	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R118	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R119	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
6	R120	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
6	R121	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R123	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R124	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R125	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R126	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R127	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R128	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R129	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R130	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R207	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
6	R208	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
6	R209	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R210	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R213	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R216	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R217	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R218	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R220	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R221	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R222	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R224	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R301	RES,CHIP	ERHY0000286	200K ohm,1/16W,J,1005,R/TP		
6	R307	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R309	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R310	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R311	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R312	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R400	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R401	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R402	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R403	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R405	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R406	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R407	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R409	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R410	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R412	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R413	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R414	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
6	R415	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R416	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R417	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R418	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R419	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	U100	IC	EUSY0277101	MLF ,10 PIN,R/TP ,MLF ,10 PIN,R/TP ,Dual(2.8V/150mA,3.3V/300mA) LDO Pb-FREE		
6	U101	IC	EUSY0260401			
6	U200	IC	EUSY0251303	BGA(8*8) ,176 PIN,R/TP ,5M camera, NAND I/F, TV Out I/F, MM Chip, Pb-free		
6	U400	IC	EUSY0307201			
6	U405	IC	EUSY0236901	DFN ,12 PIN,R/TP ,1x1.5x2x Charge pump(Sink type)		
6	VA301	VARISTOR	SEVY0003801	18 V ,SMD ,		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	VA303	VARISTOR	SEVY0003801	18 V , SMD ,		
6	VA306	VARISTOR	SEVY0003801	18 V , SMD ,		
6	VA307	VARISTOR	SEVY0003801	18 V , SMD ,		
6	VA308	VARISTOR	SEVY0003801	18 V , SMD ,		
6	X100	OSCILLATOR	EXSY0020902	27 MHz,50 PPM,15 pF,SMD ,3.2*2.5*1.05 ,2.7V ~ 3.6V, -20°C ~ +70°C		
6	X200	OSCILLATOR	EXSY0022001	24 MHz,50 PPM,15 pF,SMD ,3.2*2.5*1.1 ,2.5V ~ 3.2V, -20°C ~ +70°C		
6	X400	OSCILLATOR	EXSY0021001	5 MHz,50 PPM,15 pF,SMD ,3.2*2.5*1.05 ,2.7V ~ 3.6V, -20°C ~ +70°C		
5	SAJD00	PCB ASSY,SUB,SMT TOP	SAJD0011301			
6	CN303	CONN,RECEPTACLE	ENEY0003801	2 PIN, , ,		
6	L301	INDUCTOR,CHIP	ELCH0005009	100 nH,J , 1005 ,R/TP ,		
6	L302	INDUCTOR,CHIP	ELCH0005009	100 nH,J , 1005 ,R/TP ,		
6	LD301	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD302	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	R302	RES,CHIP	ERHY0000233	470 ohm,1/16W,J,1005,R/TP		
6	R303	RES,CHIP	ERHY0000233	470 ohm,1/16W,J,1005,R/TP		
6	R308	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	SW301	SWITCH,TACT	ESCY0003401	12 V,0.05 A,VERTICAL ,160 G,H=1.5		
6	SW302	SWITCH,TACT	ESCY0003401	12 V,0.05 A,VERTICAL ,160 G,H=1.5		
6	SW303	SWITCH,TACT	ESCY0003401	12 V,0.05 A,VERTICAL ,160 G,H=1.5		
6	SW304	SWITCH,TACT	ESCY0003401	12 V,0.05 A,VERTICAL ,160 G,H=1.5		
6	VA302	VARISTOR	SEVY0003801	18 V , SMD ,		
6	VA304	VARISTOR	SEVY0003601	5.6 V , SMD ,100pF, 1005		
6	VA305	VARISTOR	SEVY0003601	5.6 V , SMD ,100pF, 1005		
5	SPJY00	PCB,SUB	SPJY0024701	FR-4 ,0.8 mm,STAGGERED-8 ,		

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.3 Accessory

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Specification	Color	Remark
3	ADEY00	DATA KIT	ADEY0001053	KG920 Data Kit for English		
4	MBAZ00	BAG	MBAZ0004701	CD Cover		
4	MCHZ00	COMPACT DISK	MCHZ0014801		Titanium	
4	MMBA00	MANUAL,INSTALLATION	MMBA0018501	Installation guide for Mobile Agent		
4	MSFG00	STICKER,SEAL	MSFG0000801	Steaker seal of Data kit case		
3	ENSY00	CONN,SOCKET	ENSY0013201	9 PIN,BOTTOM , , mm,Mini SD Adapter		
3	EUSY00	IC	EUSY0218203	External Type ,11 PIN,BK ,128M Mini SD Card		
3	MCDZ00	CARD	MCDZ0000701	WOWLG leaflet for Russia		
3	MCEZ01	CASE	MCEZ0001201	SD Card Case		
3	MHBY00	HANDSTRAP	MHBY0002907	Leo Handstrap Export		
3	MLAA00	LABEL,APPROVAL	MLAA0035501	KG920_LABEL,APPROVAL (RUS)	White	
3	SBPL00	BATTERY PACK,LI-ION	SBPL0081701	3.7 V,850 mAh,2 CELL,PRISMATIC ,KG920 BATT, H/P, Pb-Free	Titanium	
3	SGCD00	CHARGER,DESKTOP	SGCD0026201	BC-800N ,Battery Charger		
3	SGDY00	DATA CABLE	SGDY0005601	DK-40G ,K8000 24PIN I/O + USB A TYPE		
3	SGEY00	EAR PHONE/EAR MIKE SET	SGEY0005511	KG920 ,2.5T12P,MMI,REMOCON TYPE		
3	SSAD01	ADAPTOR,AC-DC	SSAD0007828	100-240V ,60 Hz,5.2 V,800 mA,CE,CB,GOST ,EU PLUG(24P),STD		
3	WSAY00	SOFTWARE,APPLICATION	WSAY0042401	KG920_PCSync_EN_20060414		

Note
